House & Home

MANAGEMENT PUBLICATION OF THE HOUSING INDUSTRY APRIL 1966

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House & Home

A McGRAW-HILL PUBLICATION VOL. XXIX NO. 4 APRIL 1966

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Mortgage men ask new FHA rate rise to trim discounts **5**
Also: FHA losses on foreclosed units mount to $150 million a year . . . Federal court orders Georgia county to admit prefabs . . . Wage-price guideposts toppling but LBJ aides shun controls . . . *Complete NEWS index on p. 5.*

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Cover: Apartment in Lafayette, Calif. Architect: Robert L. Goetz. Builder: Lakepark Construction Co. Photo: Ricco-Mazzuchi. *For story see p. 106.*

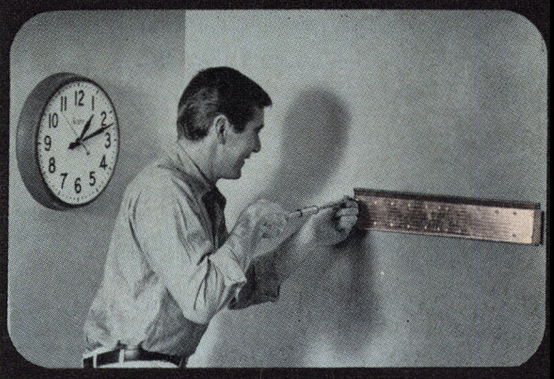
NEXT MONTH

HOUSE & HOME's annual report on the newest and best approaches to new-house merchandising brings together a wealth of 1966 sales strategies, advertising-promotion lures—and full-range marketing programs—used by homebuilders of all sizes in all kinds of housing markets.

Pop

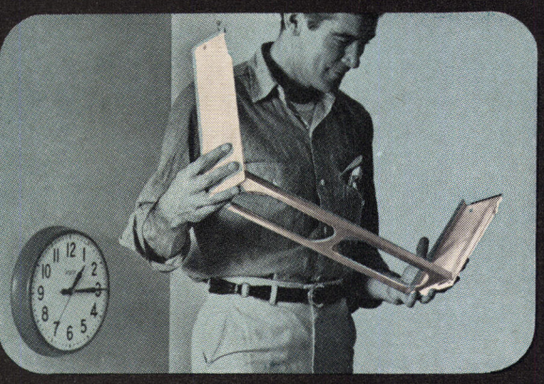
POP the box open and SERVASINK practically floats out—it's so light. Everything for fast installation in a single carton.

Zip



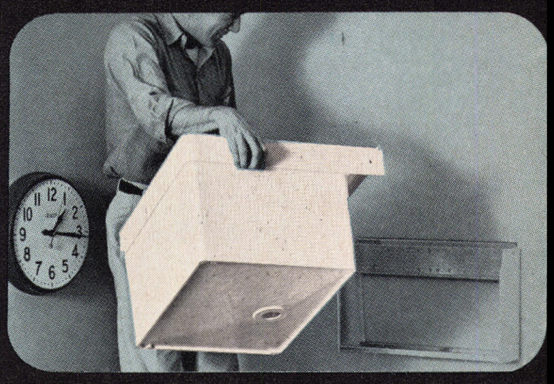
ZIP galvanized wall bracket up with four lag screws into studs of plaster or dry wall—expansion shields included for block wall.

Flip



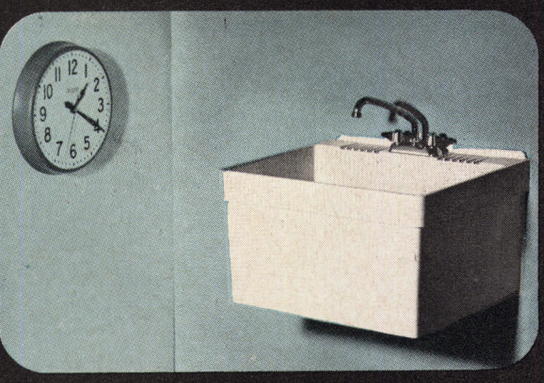
FLIP wall hanger to position—new ingenious design does this step in seconds—snaps in place to secure hanger to wall bracket.

Slip



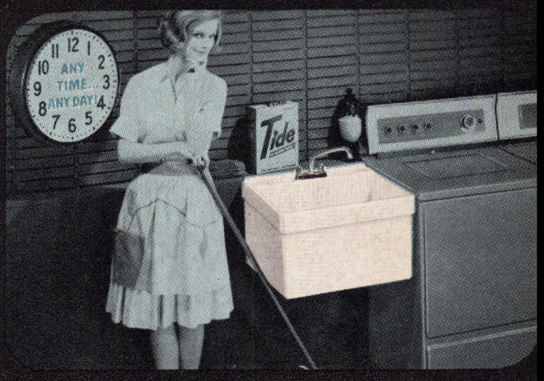
SLIP the SERVASINK onto the wall bracket and it's ready for water and waste connections. It can't sag or sway and needs no legs.

Done



DONE is your job—in minutes. For the first time, a clean and modern utility tub that is solid, strong, easy-to-clean and permanent.

Fun



FUN? Maybe washday isn't, but saving or making money sure is. SERVASINK sells with ease and profit because it's so versatile.

These six pictures tell why ServASink® is the most popular and profitable laundry tub on the market. Installs faster and more rigidly thanks to the exclusive flip-flop wall bracket. Learn all the advantages of ServASink from your wholesaler or write to us.

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WASHINGTON WIRE

Enlist to stay at home

The Defense Dept. is studying a new plan to let Uncle Sam pick up full down-payment costs for an enlisted man when he buys his own home, in return for a 15-year commitment to stay in the service. Modeled after a British Navy program, key details are still being hammered out: would a "buy back" arrangement be based on fair market value? Objective is to help retain career personnel.

Site picketing stall

Labor's bill to legalize picketing of joint building sites is all but dead. House freshmen Democrats say they won't vote on the bill until the Senate passes it first. And that is highly unlikely.

Land loans: brisk

Business is brisk for FHA's new land-development loan insurance (Title 10). The first commitment went to Dreyfuss-Cramer Development of Chicago for a $1.3 million three-year loan to develop 48 acres 25 miles northwest of Chicago into 435 lots. Homes from $13,000 to $20,000 will be built this summer. Neither party would reveal the loan discount. Through February, FHA had received 74 requests spread throughout the country. Smallest so far: 60 lots to expand an existing subdivision.

Minimum wage

A compromise worked out by Rep. Adam Clayton Powell (D., N.Y.) with the Administration and organized labor would extend minimum wage coverage to some 580,000 construction workers not presently included—believed to be mostly workers in homebuilding. A proposed bill would end an exemption for companies doing less than $350,000 business yearly. Terms of the compromise: existing minimum wage would jump from $1.25 an hr. to $1.40 an hr. next February, $1.60 an hr. in February, 1968. For newly covered workers, next February the minimum would be $1 an hr. Each February afterward it would step up by 15¢ an hour until the $1.60 an hr. level was reached in 1971. Most construction workers now make more than the minimums, but coverage would bring new restrictions on overtime.

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Mortgage men ask second FHA rate rise as credit crisis pinches homebuilding

The nation's mortgage bankers have pleaded with the President's Council of Economic Advisers for another increase in FHA's basic mortgage rate—from the new 5½% established in February to 5¾% or 6%.

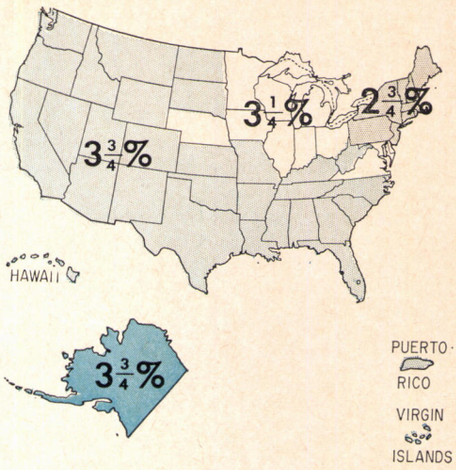
A rise to 5¾% would reduce by 2% the discounts charged to builders. The charge would be passed on to homebuyers.

President Ewart Goodwin of the Mortgage Bankers Assn. and two top mortgage bankers, assisted by two officials of the National Association of Real Estate Boards, put the case to the Council's Arthur M. Okum on March 14. Said Goodwin after the meeting: "I'm optimistic."

Why they moved. The mortgage men acted because long-term credit has now fallen into severe short supply, provoking yet another sharp escalation in mortgage rates.

Discounts charged to builders on the FHA's 5½% single-family mortgage have leaped by amounts of ½% to 1½% to a level of 3½% to 5% (*see chart above*). That is higher than discounts on the FHA's old 5¼% loan were two months ago, just before the agency introduced the new 5½ per center for the purpose of halting the discount spiral.

And cruelly deep discounts of 7%—or $700 on a $10,000 loan—have developed on the old 5¼% mortgage in areas where it is still being originated.



NEW DISCOUNTS charged to builder are shown for any FHA-VA 5½% mortgage sold to FNMA. The agency raised discounts 1% March 3. Figures above include ½% purchase fee and ¼% for FNMA stock. For old 5¼% loan, add 2%.

Investors are demanding yields of 5.63% to 5.75%.

Yields fluttered into sudden reverse in the bond and treasury bill sectors after the public markets absorbed a record $4.5 billion in new debt during one wild week in mid-March, but mortgage experts said the turnaround would be some time in reaching mortgages.

"Our market has not topped out," said

HOMEBUILDER's MORTGAGE MARKET QUOTATIONS

Reported to HOUSE & HOME in week ending March 18.

City	FNMA Scdry. Mkt.[x,y] (FHA 5¼)	(FHA 5½)	FHA Sec. 203b Discount paid by builder Min.-Down[*] 30-year Immed.[w] 5¼s	5½s	Trend	FHA 207 Apts. Firm Commit.	Conventional Loan Rates Comm. banks, Ins. Cos. 75%	Savings banks, S&Ls 80%	Savings banks, S&Ls Over 80%	Construction Loan Rates Interest+fees All lenders
Atlanta	5¾	3¾	5½-6½	4	Up ½	a	6-6¼	6¼-6½	6½-6¾	6½+1-2
Boston	4¾	2¾	a	par+1	Up 1	2	5½-5¾	5½	5½	5½-6
Chicago	5¼	3¼	a	3-4	Up 1	a	5¾	6	6¼	6-6½+1-2
Cleveland	5¼	3¼	5½-6½	3½-4½	Up 1½	a	6	6¼-6½	6½	6¼-6½+1-2
Dallas	5¾	3¾	7	4	Up 1	a	6-6¼	6-6½	6¼-6½	6½+1
Denver	5¾	3¾	6	4	Up 1½	a	6	6	6¼-6½	6½+1-2
Detroit	5¼	3¼	4½-5	4	Up 1½	2½	6	6	6-6¾	6-6½+1
Honolulu	5¾	3¾	6-6½	4-4½	Up 1½	a	6¼-6½	6¾-7	7-7½	6½-7+1-3
Houston	5¾	3¾	a	5-5½	Up 2	a	6-6½	6¼-6¾	6½-6¾	6¼+1½
Los Angeles	5¾	3¾	a	4½-5	Up 1	a	5¾-6¼	6-6.6	6¼-6¾	6¼-6¾+1½-2½
Miami	5¾	3¾	6	4	Up 1	a	6-6¼	6-6¼	6-6¼	6-6½+½-1
Newark	4¾	2¾	3½	1	Up ½	1	5¾	5¾-6	6	6+1
New York	4¾	2¾	a	2	Up 1	1½	6	6	6	6+1-1½
Okla. City	5¾	3¾	5½-6	3½-4	Up 1	a	6-6½	6¼-6¾	6¼-6¾	6-6½+1-2
Philadelphia	4¾	2¾	3	1-1½	Down ½	a	5¾	6	6	6+1
San Fran.	5¾	3¾	a	4-5	Up ½	1-1½	6¼	6½-7	7¼	6-7+1-2
St. Louis	5¾	3¾	4½-6	3-4	Up 1	1½	5¾-6	6-6¼	6-6½	6-6½+1-2
Wash., D.C.	5¼	3¼	5-6	3-4	Up 1	1-2	6	6	6	6-6½+1-1½

* Immediate covers loans for delivery up to three months, future covers loans for delivery in three to twelve months.
• Quotations refer to prices in metropolitan areas, discounts may run slightly higher in surrounding towns or rural zones.
• Quotations refer to houses of typical average local quality.
* 3% down on first $15,000; 10% of next $5,000; 25% of balance.

Footnotes: a—no activity. b—limited activity. w—for comparable VA loans also. x—FNMA pays ½ point more for loans with 10%. y—discounts quoted are net after seller pays ½% marketing fee and ¼% adjustment for stock purchase. Seller must pay 1% of mortgage for stock calculated in $120 units, of which $20 is contribution to FNMA capital and $100 is for a share trading at about $84. z—applies to 66% loans.

Sources: Atlanta, Robert Tharpe, pres., Tharpe & Brooks Inc.; Boston, Robert Morgan, pres., Boston 5¢ Savings Bank; Chicago, Robert H. Pease, pres., Draper & Kramer Inc., and Robert H. Wilson, pres., Percy Wilson Mortgage & Finance Corp.; Cleveland, David E. O'Neill, vice pres., Jay F. Zook, Inc.; Dallas, M. J. Greene, pres., Southern Trust & Mortgage Co.; Denver, Clair A. Bacon, pres., Mortgage Investments Co.; Detroit, Sherwin Vine, vice pres., Citizens Mortgage Co.; Honolulu, H. Howard Stephenson, vice pres., Bank of Hawaii; Houston, Everett Mattson, vice pres., J. Bettes Co.; Los Angeles, Christian M. Gebhardt, vice pres., Colwell Co.; Miami, Lon Worth Crow Jr., pres., Lon Worth Crow Co.; Newark, William W. Curran, vice pres., Franklin Capital Corp.; New York, John Halperin, J. Halperin & Co.; Oklahoma City, B. B. Bass, pres., American Mortgage & Investment Co.; Philadelphia, Robert S. Irving, vice-pres., First Pennsylvania Banking & Trust Co.; St. Louis, Charles A. Keller, vice pres., Mercantile Mortgage Co.; San Francisco. John Jensen, vice pres., Bankers Mortgage Co. of California; Washington, James C. Latta, sr. vice pres., Frederick W. Berens Inc.

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Vice President John L. Westney of the New York bank for Savings. "Mortgage money is still short in thrift institutions, regardless of easier credit elsewhere."

But the private mortgage market is still trading. "The orderly reaction to the rate has been remarkable," says Senior Vice President August M. Strung of New York's Bowery Savings Bank, which has more than $2 billion in its mortgage portfolio. "It's unfortunate, but money has its price and there is a shortage of dollars."

And while mortgage leaders elsewhere were describing the market as "chaotic" or "a shambles," southern California's big Colwell Co. stood solid as a rock, buying from builders and selling into the free market. It was one of the last big Coast companies still willing to commit forward.

"No builder has turned us down," said Vice President Christian M. Gebhardt of Colwell, speaking of the deep discounts. "It could happen, and some builders could leave us to go conventional. But we have a market to contend with. We're charging the discount and delivering the yield."

And among the mortgage giants, calm voices were heard. As he has during past periods of stress, Chairman Aubrey Costa of Dallas' Southern Trust & Mortgage spoke out.

"I think we'll see some peaks here soon," he said during a visit to a gloom-ridden MBA management conference in New York. "This market will shake down."

Builder acceptance. Few of HOUSE & HOME's mortgage advisers in 18 key cities can yet report concerted builder resistance to the deepening discounts, although President Ray Lapin of Bankers Mortgage of California insists: "Some are getting to the stage of desperation." Generally, builders appear resentful, but resigned.

Why a rate rise? The nation's commercial banks provoked part of the latest mortgage rate rise when they increased their prime rate—the interest charged on top-quality business borrowers—from 5% to 5½% on March 10. And the Federal National Mortgage Assn., the government's mortgage buying agency, contributed a push when it made a 1% reduction—its third—in the price it pays for loans purchased from mortgage bankers.

And why a credit squeeze? But the rate rises reflect far wider influences.

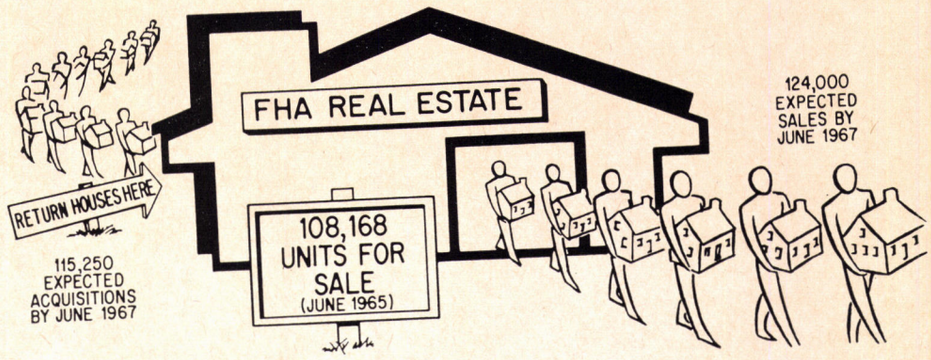
The economy is simply not generating sufficient credit to fuel the boom.

Chairman John E. Horne of the Federal Home Loan Bank Board predicts that the supply of home mortgage money may dip 5% or $1 billion to $1.5 billion in 1966.

February housing starts fell 17% from January and NAHB blames tight money. Dodge Economist George Christie says failure to improve may be the impact.

But Edward C. Birkner, former HOUSE & HOME executive editor whose Marketing Information Network (New York) now advises the residential construction industry, talked with 30 homebuilders after the latest raise in the prime rate. Not one said he would reduce operations in 1966 because of tighter money.

—EDWIN W. ROCHON



REVOLVING DOOR SYNDROME afflicts FHA resales, keeping inventory high. Houses come in back door almost as fast as agency sells out front. FHA has already re-repossessed 5,400 repossessions.

FHA's big red loser: Resale program is caught up in a dizzying cost spiral

The nation's biggest homeowner is selling down its inventory of repossessed homes, but the cost is staggering.

FHA finished fiscal 1961 with 65,479 homes and apartment units on hand. The inventory had almost doubled by 1964—to 113,721. A concerted sales effort reduced the figure to 108,168 in 1965, and the agency has now stepped up its selling campaign to near crash proportions. It says holdings will dip to 105,668 in 1966 and 99,418 in 1967.

But FHA's drumfire of publicity about the program's success obscures the expenses. In 1961 the average loss on a resale was $1,277. By 1964 it was $2,788—more than double—and the agency estimates that the 1965 figure may reach $3,200.*

A blow to reserves. With both sales and loss-per-sale figures rising, something had to give. What gave was reserves. The loss to FHA reserves leaped from $9.7 million in 1961 to $156.8 million in 1965, and it will probably continue at that rate for the next three or four years if FHA maintains its current sales volume of 50,000 units annually (*see graph below*).

*A Controller General's report, issued in March, confirms that FHA's losses on home sales have been rising sharply and emphasizes that, up to 1964, the method of computing loss allowances, "did not really reflect those rising rates of loss."

These losses have in turn reversed the previously healthy growth in FHA's total reserves. From a sharp upward climb to $1.14 billion in 1963 they actually declined to $1.12 billion in 1964 and have yet to regain their 1963 level.

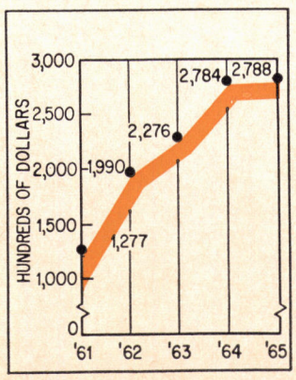
By proclaiming the success of the resale program in the face of such figures, FHA begins to sound like the short-order cook of vaudeville memory who was losing money on every meal. Asked how he avoided bankruptcy, he explained: "I make it up on volume."

FHA's problem lies not so much in selling off inventory through the front door as in keeping more from coming in the back. The agency will acquire 58,500 units this year and 56,750 in 1967, a two-year total higher than the entire inventory on hand at the end of 1965 (*see drawing above*).

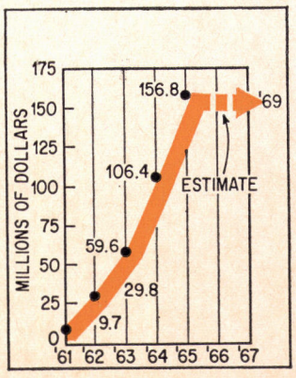
Why. FHA explains the steady influx of acquired properties thus: 1) changed market conditions make it harder for distressed homeowners to find ready buyers, so they default; 2) FHA terms have been liberalized, notably by the 1961 Housing Act; and 3) military base closings and abrupt defense contract changes have caused sudden dislocation in some local markets.

The FHA's headquarters is now pressing

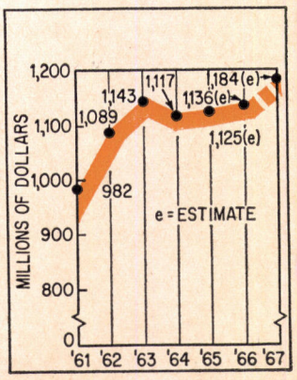
A steep rise in losses for each unit resold . . .



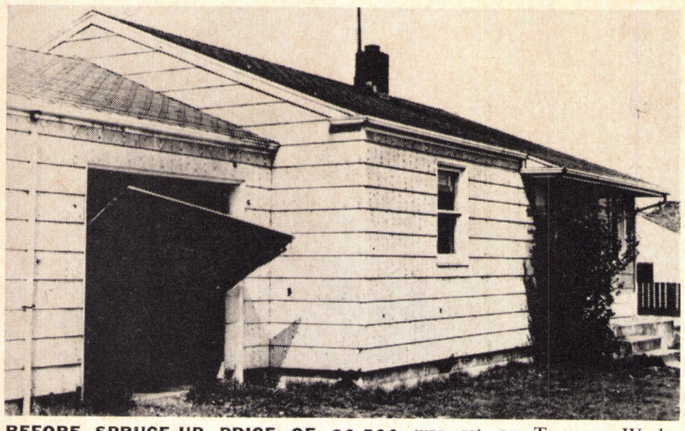
is boosting yearly losses to FHA reserves . . .



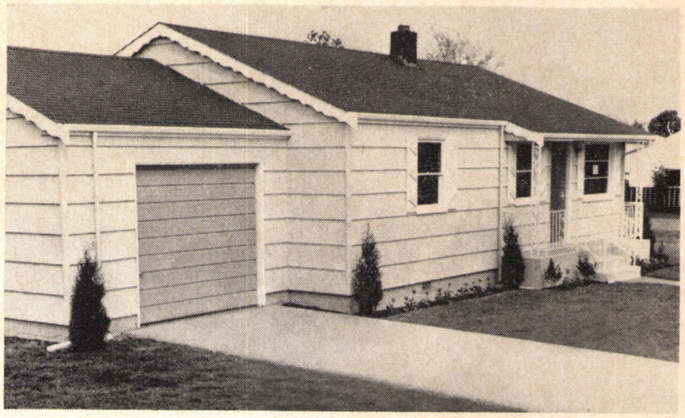
and stalling growth of total reserves



Ken Johnson—Seattle



BEFORE SPRUCE-UP PRICE OF $6,500 was set on Tacoma, Wash., home acquired by FHA. The agency spent $2,000 on painting, siding, paving.



AFTER SPRUCE-UP PRICE OF $9,500 was realized Seattle Realty Board has commended FHA Director Andy Hess on his home resale program.

a nationwide drive to sell 42,779 single-family dwellings. It has developed bold new sales techniques, but they have been costly. Some examples:

- The agency absorbs all selling costs, mortgage points and fees. A family need pay only $100 down on an average house. In December, an FHA ad in Phoenix newspapers offered $9,450 houses for nothing down. (This offer has since been withdrawn.)
- Regional newspaper advertising has been increased, and FHA's Washington office offers advice and consultation to local offices. The Seattle area ad allowance is typical: $5 per house per month.
- The agency has begun selling entire tracts on the condition that the houses be razed. This new policy—still rarely invoked—recognizes a contention advanced by some that the most economic way to deal with much of the nation's dilapidated surplus housing is to tear it down. Most FHA demolitions have occurred where defense contracts have been terminated.
- Rehabilitation has become a byword, and the policy is to do whatever is necessary to render properties salable. The agency sets no specific limit on local offices' fix-up spending.

The big fix-up. Local builders usually get the FHA's rehab work on a negotiated contract, often in multiple units of ten. The agency installs air conditioning where the market requires it and often adds carports to make properties more attractive. HOUSE & HOME's Fred Sherman reports from Miami that a typical rehab bill runs to only $1,000 in suburban Carol City, but it may go as high as $6,000 in Seattle. One of that city's repossessions that would have gone for $7,000 "as is" brought $17,500 when redone. In St. Petersburg, Fla., which has the heaviest district office inventory in the country, the agency has been offering builders one mortgage commitment if they buy one repossessed FHA house, rehabilitate it and sell it. The agency foots the rehab bill and pays the 5% sales commission.

Builders unafraid. A few builders see the FHA's sales campaign as a threat. Warns Ex-President Neil Schiff of the South Florida Home Builders Assn., who builds in the $20,000 range in Miami:

"We won't have a healthy situation until FHA unloads, because the agency is selling below market prices. It is difficult competition and hurts the new-home builder. People often can't buy houses in my price range because they can't sell their own houses in a cheap subdivision while they are surrounded by foreclosed homes at bargain prices."

But most builders remain unperturbed, either because they fail to appreciate the size of the FHA backlog or because they feel that it is moving into the market at prices below their own sales range.

"FHA should make every legitimate effort to sell the houses through any means and promotion," says Miami's Bernard Janis, but he adds: "When they resort to down payments lower than those on new construction, they are kidding themselves. What they sell this year will be coming back next." (This is already happening. From 1954 through 1964, FHA took back 3,187 houses and 2,235 multi-family units that it had already sold once).

Adds Executive Director John Robinson of the Louisville HBA, "We would object if FHA resorted to inordinately low prices, special financing rates or other inducement that would result in unfair competition, but we don't think the FHA would do that."

And according to Executive Secretary Joe Martineau of the Seattle HBA, the typical FHA sale is for $10,500, a price range the new-house builder could not—and would not—touch.

Thus builders, generally, do not seem to feel that FHA's resales are hurting the industry. But there can no longer be any doubt that they are hurting the FHA.

WHY LOSSES ARE UP: FHA'S STAND

Says Assistant Housing Secretary Philip Brownstein, head of FHA:

"Our increased losses can be traced to two primary reasons: the price stability in the market and our increased risks. In the past, inflation has absorbed the costs that are now more evident. These costs, 25% of the mortgage amount, are mostly fixed—broker fees, etc.

"While we have augmented our selling program, the added costs are not an appreciable amount of the increased losses we're having.

"As our terms have become more liberalized, our risks become greater. This policy encourages home ownership.

"In our present situation, I would not want to increase our terms, thereby reducing risks, nor would I want inflation to absorb our losses. While we are not adding to our reserves as much as we have in the past, I do not think the present situation is threatening.

"I anticipate roughly the same level of foreclosures and the same level of expenses in selling the homes we acquire. Consequently, I don't feel our premium rate should be reduced.

"Recently we have been unloading some dogs to clear up our backlog. Naturally this has raised our losses.

SOFT SOAP AND HARD SELL

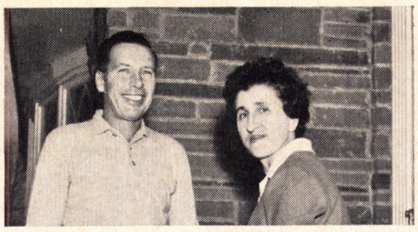
The FHA uses the quarter-page ad shown above in Phoenix papers and sells hard with big teaser lines: "Priced to Sell," "Minimum Down" and "No Closing."

But in Seattle, ads whisper. "We are not in the real estate business," they reassure buyers (and apprehensive Realtors) but "defaults do occur." Tiny type suggests that such bargains might be available if an interested buyer were to call.

Other regional offices use a combination of these methods. Here are the ten with the biggest single-family backlogs:

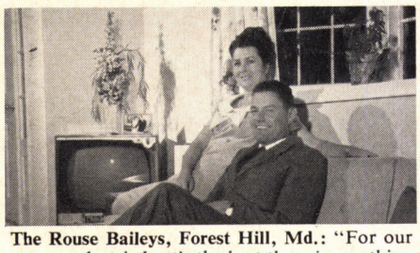
Tampa	4,328	Birmingham	1,670
Lubbock, Tex.	3,068	Houston	1,650
Fort Worth	2,446	Miami	1,473
Topeka	2,039	Atlanta	1,373
Detroit	1,878	New Orleans	1,392

The Edward H. Coxes, Richmond, Va.: "I'm a builder, and have electric heat myself. All the good things they say about it are true."

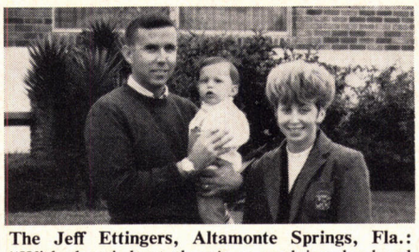


The Edward Whites, Palenville, N.Y.: "Electricity is to heat as FM is to music. Cleanliness and comfort make it most desirable."

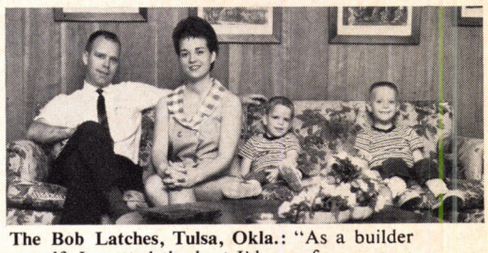
The Robert V. Clendenens, Worthington, Ohio: "We appreciate electric heat's extreme cleanliness, and we've never been as comfortable."



The Rouse Baileys, Forest Hill, Md.: "For our money, electric heat's the best there is—nothing else is so clean, quiet or even."



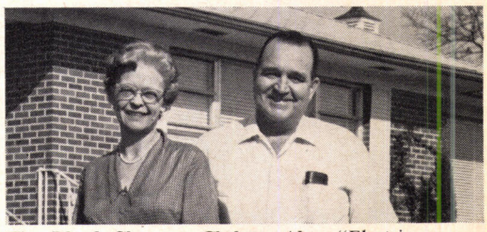
The Jeff Ettingers, Altamonte Springs, Fla.: "With electric heat, there's no work involved and no fuel worries. And it's really clean."



The Bob Latches, Tulsa, Okla.: "As a builder myself, I wanted the best I'd seen for my own home—and that meant electric heat."

The Larry G. Gordons, Des Moines, Iowa: "We won't ever again be without electric heat—it's the perfect answer for true comfort."

The Holland K. Foxes, Topeka, Kan.: "Every modern home should have electric heat: It's hard to imagine how we ever did without it."



The Lloyd Chessers, Chelsea, Ala.: "Electric heat's the best—and the cheapest! We've never before been so happy with anything."

The Walter D. Christensens, Wethersfield, Conn.: "After one apartment with electric heat, we never considered anything else for our home."

The Lowell Harmons, Kansas City, Mo.: "For our new home, the thing that really sold us on electric heat was room-by-room control."

The Nicholas G. Guarinos, Belmar, N. J.: "We like electric heating because it's cleaner, more economical and more efficient."

Homeowner enthusiasm like this market for modern flameless

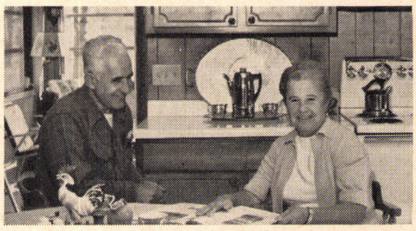
In every part of the nation, in every income bracket, more and more families like these are looking for—and buying—new homes with modern flameless electric heating. And their enthusiasm and satisfaction are helping to create an even bigger market for the future.

Whatever size, style or type of home you build, now's the time to cash in on this growing popularity. By installing electric heat, you add a major selling feature with proven sales appeal. And in the bargain, you'll also speed construction and cut initial costs.

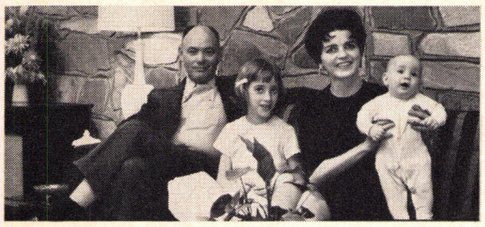
Right now, electrically heated homes are going up at better than 800 a day—and selling just as fast. So why not find out how you, too, can profit more with flameless electric home heating? First chance you get, talk it over with your local electric utility company.

The John W. Burleys, Pittsburgh, Pa.: "For sure, electric heat is the finest system going. We wouldn't trade it for anything else."

The Cyrus M. Humphreys, Toledo, Ohio: "We're absolutely delighted with our electrically heated home. It's the best we've ever had."

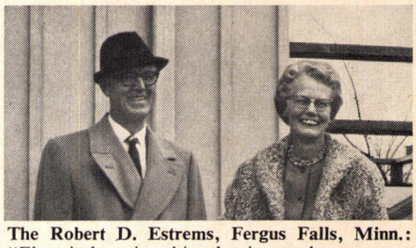


The Ernest Hilfikers, Black Mountain, N. C.: "Without reservation, electric heat's the most economical and satisfactory we've seen."



The John K. Fergusons, Fordyce, Ark.: "For real comfort, nothing tops electric heat—and its reasonable cost makes it a bargain!"

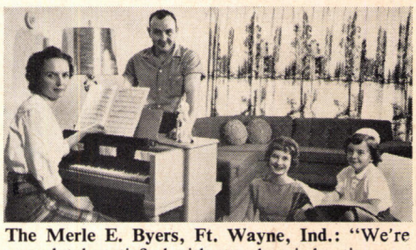
The A. Loikas, Somersworth, N. H.: "After our first year with electric heat, we're in complete agreement over its many benefits."



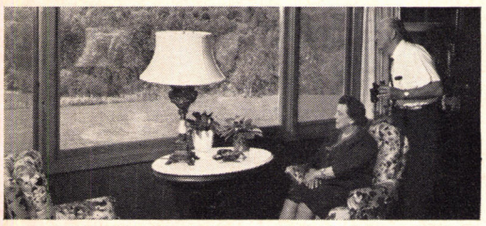
The Robert D. Estrems, Fergus Falls, Minn.: "Electric heat is a big plus in any home—next time we buy, we'll want it again."

The Curtis Pharrs, Inkster, Mich.: "After two years, we're so pleased with electric heat we recommend it to everyone we know."

The Richard S. Bennetts, Wilmington, Del.: "Electric heating is wonderfully clean and comfortable. It's a very versatile system."

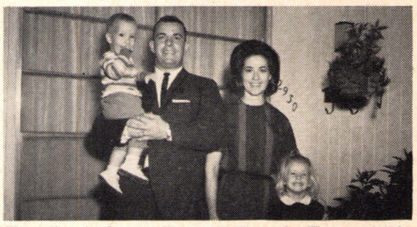


The Merle E. Byers, Ft. Wayne, Ind.: "We're completely satisfied with our electric heating system—particularly its reasonable cost."



The Guy O. Andersens, Duluth, Minn.: "We've lived with all types of heat, and electric heating is far superior—we're sold 100%."

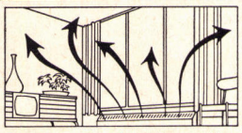
The Charles C. Wetmores, Northboro, Mass.: "Electric heat gives us far more benefits than our last system—and our bills are lower, too."



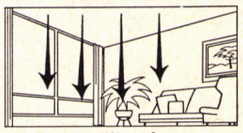
The Jim Andrews, Farmers Branch, Texas: "We have had electric heat now for three years, and we just couldn't be more pleased with it."

is building a bigger nationwide electric home heating

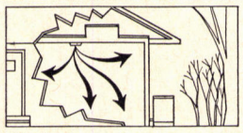
Only flameless electric home heating offers you so many different types of equipment to choose from!



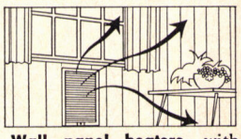
Baseboard units take up little space, permit room-by-room temperature control. Two types are available: radiant or convective.



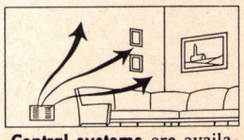
Radiant ceiling heat uses small wires concealed within ceilings, ceilingboard or wallpaper. Each room has individual temperature control.



Heat pump heats home in winter, cools it in summer. One thermostat setting maintains any desired year-round temperature.



Wall panel heaters, with heating coils behind decorative grilles, provide radiant heat with natural or fan-forced convection.



Central systems are available for either hot water or warm air heating in which flameless electric units supply the heat.

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Circle 31 on Reader Service Card

continued from p. 7

Wage guideposts crumpling but LBJ aides shun controls

With two strikes against it, the Johnson Administration is making a third stab at finding the handle to close the door on guideline-breaching building-industry pay settlements.

Last month the AFL-CIO rejected Administration appeals for wage restraint and a formula designed particularly for the construction industry to dampen contract demands. Now Administration officials are discussing alternate approaches but still rule out formal controls on wages.

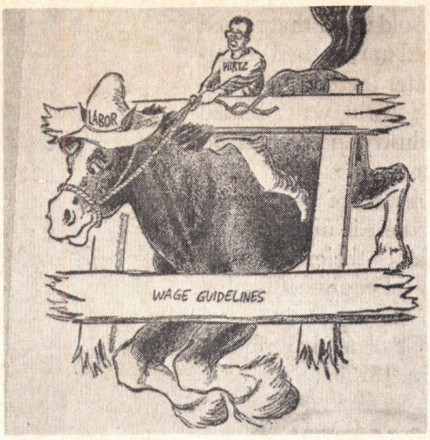
Labor Secretary W. Willard Wirtz—who met firm resistance on the subject of the 3.2% wage guidelines at the AFL-CIO meetings recently in Miami Beach—is leading Administration discussions on other methods.

Holding the handout. Top-rated possibility is witholding federal funds from construction projects where wage settlements shatter the guideposts.

The Administration is expected to tip its hand on what approach it will use in one key case—a tentative 17.8% three-year agreement between the Associated General Contractors and an Operating Engineers local in New Jersey. Administration officials are hoping to break up this agreement before it is formally signed. But so far they're having difficulty in even getting local union leaders to meet on the matter.

These officials are anxious to find a quick solution because of the raft of construction negotiations coming up this spring. Most agreements in the construction industry are worked out during the first half of the year, and if the Administration waits too long, the 1966 guideposts for construction will remain unsettled. Interest in the New Jersey operating engineers case is high because it's considered a pattern-setter for the year.

Engelhardt, St. Louis Post-Dispatch



AW, C'MON, WHOA

Upward march. Other construction pacts aren't waiting for the outcome of the New Jersey case, and wage packages are exceeding even the 1965 increases for construction—which averaged 4.2%.

In St. Louis, hodcarriers won a three-year, 22% package, including fringes, which will boost their total hourly wages from $4.30 to $5.25 by 1969. St. Louis electricians settled for 14.5% over three years, boosting their wage and fringe total by 85¢ to $6.70. Chicago operating engineers signed for a wage increase that doubles the guideline, and Philadelphia cement drivers have thrice rejected an 8.4% offer spread over three years.

The Administration's success or failure in pushing its guidelines in construction will help to determine other wage levels. If the craft workers in the 18 AFL-CIO building trades unions push rates even higher, the result will almost certainly be to pull along nonunion rates in the homebuilding industry. To a considerable extent, higher rates are due less to union resistance to Administration guidelines than to favorable union bargaining conditions. The combination of a booming economy and manpower shortages (*see below*) is giving union negotiators a leverage they haven't enjoyed in years.

LBJ stance. While President Johnson has been described as "extremely concerned" about the construction settlement threat to his guidelines, he has maintained public silence. He'll have an opportunity to make a direct appeal, if he chooses, at an AFL-CIO building trades legislative conference this month. But another appeal for restraint, even from the President, isn't likely to alter union resistance.

Probably the only way the Administration can be successful in holding the wage line is through the case-by-case method.

Chances are slim, however, that much can really be done by piecemeal methods. Negotiations are handled among the 8,000 building trades locals, and little influence reaches them from international union headquarters. Policing these negotiations across the country would be an almost impossible task, even if the union officials subscribed to the guideposts—which they don't.

Many union officials say privately that controls will be finally instituted—if inflationary pressures continue to build. But those who experienced the bureaucratic entanglements of World War II and Korea want a solution short of controls.

State officials suggest some exits from manpower box

State employment officers say the current labor pinch gives the nation—and building—an opportunity to attack the lingering problem of hard-core unemployment.

Nearly all the 48 states responding to a McGraw-Hill economics department survey of the labor situation say their problem is "matching people with jobs." But in an increasingly tight labor market, this is becoming more and more difficult.

Still, Labor Secretary Willard Wirtz suggests it is not impossible. Last month the nation's jobless rate dropped below 4%—a figure some economists have regarded as "theoretical" full employment. But Wirtz says the nation can cut the current 3.7% unemployment rate to 2.5% without overheating the economy. His idea: "There's manpower available; we've got to train it." And state employment officers suggest some specific ways this might be done.

On-job training. The state officers paint this composite portrait of the typical jobless man: he is an unskilled youth, a school dropout or an older man who is not an effective candidate for job openings. Training is the only way to give him the skills he needs to get and hold a job. And the state officers are making strong appeals for employers to aid them by listing entry-level jobs for unskilled men.

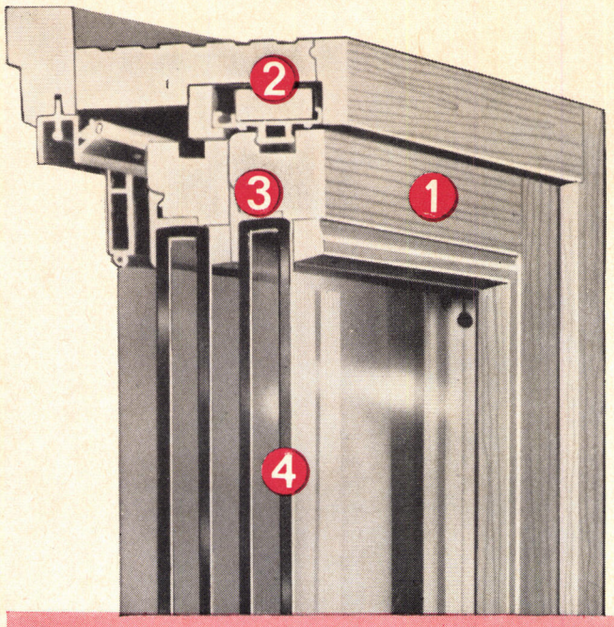
The officers concede training cannot be done overnight, but are firm in their stand that it offers a feasible way to keep the current economic boom going without inflation because of labor shortages.

To finance on-the-job training, officers are looking principally to federal help under the Manpower Development Training Act. So far housing has received little help from this quarter; Greensboro, N.C., homebuilders got MDTA funds to train a small group of workers, but other associations have not followed suit. The Labor Dept. is asking $400 million for MDTA in the next two years, and NAHB will convene builders in April to see if 15%—or $60 million a year—can be poured into training programs for homebuilding labor.

New job specs. The officials are pressing an approach they call "job restructuring" or "job re-engineering." In short, it means lowering the skills or educational requirements for a given job. The state officers find many employers will hire only high-school graduates—although many men with vocational training do not have a diploma. In many union-sponsored apprentice programs—labor-starved Detroit is an example—only high-school graduates "or the equivalent" may receive training.

Housing men are quick to point out, however, that union work rules might limit the degree of job re-engineering possible in some crafts. It would be difficult, for example, to give some routine tasks now performed by skilled craftsmen to men of lesser skills. For instance, a builder might find that an unskilled man could lay out wiring in a house, but an electrician would have to make the actual connections.

But NAHB labor experts point out that off-site fabrication of components and subsystems, or total prefabrication, would carry job re-engineering to its ultimate. It would sidestep many union restrictions and free builders from primary dependence upon labor unions for training labor.



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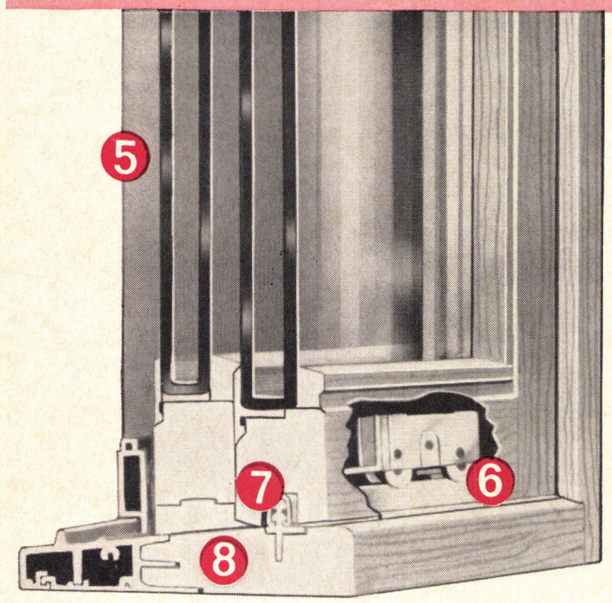

Caradco Wood Patio Doors have the solid feel of genuine quality from top to bottom and inside out . . . no flimsy, rattle-trap metal door to clatter closed to reflect unfavorably on the homes you build. This unit is immediately identified as "Grade A" all the way.

It's so obviously good that it speaks for itself; but you'll *want* to brag about it. So point out first that it's made of wood, which means better appearance, better insulating and acoustical qualities, unlimited choice in decorative treatment. Point out the floating, rigid vinyl head track and how it provides year 'round double weatherstrip contact. Explain that the hidden "T" reinforcers of heavy extruded aluminum are stronger themselves than some door units. Then tell about the 7/8" Insulating Plate Glass . . . how it resists heat loss and inside frosting in winter, reduces air conditioner load in summer. Remember to mention the jump-proof screen . . . the nylon rollers for smooth, easy operation . . . the dense pile weatherstrip that seals out sill drafts and the thermal barrier construction of the sill which stops carpet soil by not conducting cold in.

Cost more? Certainly, because it's built up to a standard of quality . . . not down to a price.

But a Caradco Wood Patio Door adds so much more than it costs that it's habit forming.

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Circle 32 on Reader Service Card

Housing-bill hearings: nearly everyone suggests a change

The question isn't, "To be or not to be"; It's "How much, to whom, when."

The ritual Congressional hearings last month on President Johnson's new "demonstration city" program produced a parade of mayors before Rep. William Barrett's (D., Pa.) housing subcommittee.

Everyone—except the Chamber of Commerce and National Association of Real Estate Boards—felt the new program was needed. Who's against more money?

But the complaints were more about procedure than propriety of the proposal. Examples:

- Make the money amount larger.
- Make it available to any city which can come forth with a sound proposal on how it should be spent.
- Forget this competition idea. LBJ proposed to pit cities against each other in hopes of stimulating bold new approaches to curing the cities' ills.
- Make sure this extra money doesn't supplant urban renewal funds.
- Make possible immediate commitment of demonstration funds—and urban renewal money—even though the cash flow won't occur for years.

Most of the complaints are likely to get transformed into modifications of the bill when the housing subcommittee "marks up" the Administration proposal this month behind closed doors.

No contest. A parade of city witnesses denounced LBJ's idea of having cities compete with each other for "demonstration city" aid to improve housing and social conditions in large neighborhoods.

"It would discriminate against cities of equal capacity and equal commitment," said President Nathaniel Keith of the National Housing Conference, public housing's chief lobby. A Cincinnati councilman called it "inherently discriminatory."

Mayors John Lindsay of New York City and Richard Daley of Chicago did not oppose the competition plan but testified their cities could use almost all the $2.3 billion President Johnson has proposed spending. Small city mayors in turn feared their big-city brothers might snap up all the cash.

Commissar? Housing Secretary Robert Weaver bridled when one committee member suggested HUD would place a federal "commissar" in each demonstration city. The uneasiness is rooted in Weaver's proposal to have a federal coordinator oversee the demonstration work in the 60 or 70 chosen cities. The coordinator, argued Weaver, would actually work in behalf of the city in speeding approvals through the federal bureaucracy.

But some committee members are not convinced. Three Democratic members want FHA district directors to act as coordinators and Rep. Paul Fino (R., New York City) wants to limit the coordinator to being an information officer only.

New towns. The Administration's new town concept drew the same fire from the same people—and its chances of passage seem just as dim as last year.

Actually, the proposal this year would do little more than raise the mortgage limit for land loans from $10 million to $25 million and affix the onerous "new town" label to the existing Title 10 land development loan insurance program.

The proposal, observed NAHB President Larry Blackmon, does nothing "except possibly put federal credit behind a few projects of huge corporations."

The companion proposal to finance public land development agencies seems doomed, too. Congress seldom pits public bodies against private developers.

Touch ups. This year's housing bill provides the opportunity to touch up some of the bare spots left uncovered by last year's omnibus act.

Some of the ideas likely to survive the legislative mill: 1) letting borrowers pay the ½% premium on Title 1 home improvement loans, thereby sweetening the yield for lenders; 2) raising mortgage limits on Sec. 221d2 moderate-income sales houses; 3) extending the three-year limit on leases public housing agencies can now make with private landlords, and 4) making clear that gas and electric lines can be part of a Title 10 land loan.

NAHB's suggestion to raise the maximum Sec. 203b loan from $30,000 to $35,000 caused some arched eyebrows, but it might survive. There is less chance for a proposal by Sen. Philip Hart (D., Mich.) to let FHA insure $15,000 loans for vacation homes.

Federal court orders Georgia county to admit prefabs

When Builder C. E. Benefield applied for a permit last June to erect a prefabricated house in Gwinnett County, Ga., on Atlanta's fringe, he was told he would have to modify the house before it would pass the county building code. This puzzled Benefield because he and several other builders had been using prefab packages with nary a challenge since the code was enacted nine years ago.

Last month, after nine months of informal conferences and legal preceedings, Benefield's house was started and quickly passed its first two inspections, thanks largely to Federal District Judge Sidney O. Smith Jr. and a prefabber—Kingsberry Homes—that wouldn't take "no" for an answer.

When the dispute arose, Kingsberry took the position that since its houses met all standards of the FHA, VA and the Southern Standard Building Code, there was no valid reason the house should not be built.

"It is our hope that we can play some part in helping communities get better, more up-to-date building codes," said Research Director John Odegaard. "We would like to be known as a company that doesn't give in at the first sign of opposition from local authorities. In this case,

NOWAK

ODEGAARD

following the Gwinnett County code could mean a $300 increase in the cost of the house without the addition of any needed strength."

Gentle persuasion. Kingsberry, the nation's second largest prefabber, sent Gwinnett County Commissioners copies of the Southern Building Code and urged them to adopt this code. Company officials appeared before the commissioners and the Planning and Zoning Board to press for changes. The officials refused to move.

After five months of negotiation, Kingsberry President Jerome Nowak decided only a court case could settle the issue, and he ordered company attorneys to file a civil complaint* in federal district court in Atlanta.

*Civil Case No. 9763, Northern District of Georgia.

How strong is strong? Kingsberry contended the Gwinnett code denied the company equal protection of the law by preventing it from using new materials and methods and from selling a house equal or superior in strength to one conforming with the code. Key points:

- The code required ceiling joists to be spaced 16″ apart and roof rafters 20″ apart with a maximum span of 20′. Kingsberry used smaller dimension lumber in trusses to span 26′ to 32′.
- The code required double studs for interior door jambs while Kingsberry used only single studs, since interior walls are non-load bearing.

Judge Smith was not impressed by county claims the rigid code standards were needed to protect public health and safety. "The code requirements might result in a house which would support 10′ of snow or 40 men on its roof, but such achievements would not be necessary to the public safety and welfare," remarked Judge Smith. He ruled that Kingsberry's compliance with FHA, VA and Southern codes was prima facie evidence the contested code sections were unreasonable and granted Kingsberry a temporary injunction barring enforcement of these sections. A permanent ban request is pending.

Happiness is . . .

these Ceramic Cartridges*

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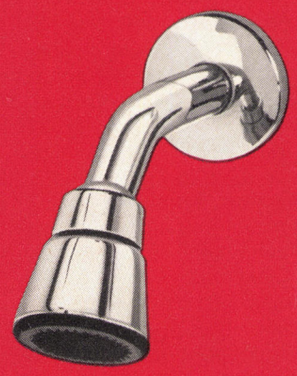

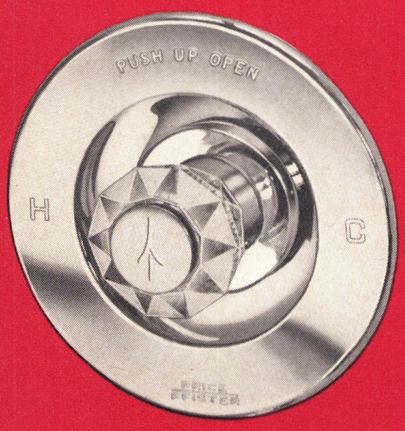

09-431

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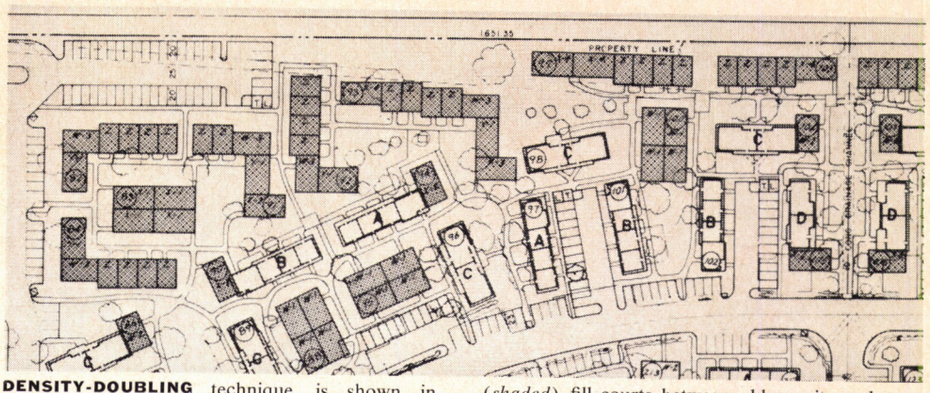


DENSITY-DOUBLING technique is shown in partial plot plan of Victory Park. New units (*shaded*) fill courts between older units and new clusters occupy former open space.

Double density for an old wartime project or, the case for a better shoehorn

Beneficial Standard Life Insurance Co. of Los Angeles is embarking on a unique project that could upset many present-day theories about high-density housing.

It has just bought a 500-unit World War II housing project called Victory Park and plans to nearly double density to 970 units by building 532 new units, razing 68 old ones and renovating 438 others.

"We could easily have gone in and built 3,000 high-rise apartments, but we felt this would be just developing another potential slum," says Gerald I. Mallen, project director for Beneficial Standard. "We are not just private developers, but an institution, and we want to preserve our investment [over $8 million] for a long time."

Package plan? To critics of the double density plan, Mallen points out the total 970 units will raise the density to only 15 units per net acre. Any number of post-World War II garden-apartment projects have 20 and 25 units to the acre.

Kenneth F. Mitchell & Assoc. of Los Angeles has devised a land plan (*see layout above*) which sprinkles new units among the old in three ways:

1) Some clusters of new units are being built inside U-shaped groups of older units, 2) single new units are added to the ends of older four-family buildings and 3) some open space will be filled with one-story and two-story new units.

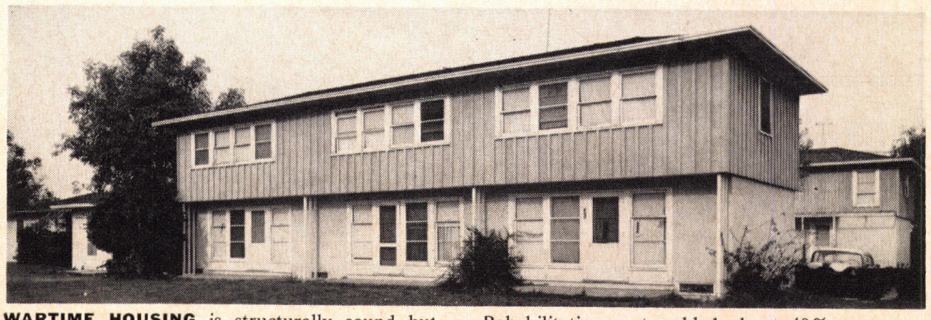
Existing trees are being retained and the land planners are arranging the new buildings to provide as much open space as possible. Also, they are taking advantage of a now vacant 3½ acres adjoining a school in the center of the 70-acre tract to add a baseball diamond, tennis, basketball and vollyball courts.

Still low rent. With all the changes Beneficial Standard will come out with a project costing less than $10,000 a unit and will be able to maintain a low-rent schedule. Rents in the renovated units are $75 for a one-bedroom unit, $85 and $95 for two bedrooms, and $105 for three bedrooms. Mallen says this schedule is about 30% to 40% higher than before.

Easing tensions. The life insurance company is ending the project's role as a "white island" in the Los Angeles suburb of Compton, a city with 55% Negro population. Victory Park became an all-white enclave when its builder, the federal government, sold it to a tenant cooperative after World War II.

In the racial tinderbox of Los Angeles (Victory Park is about five miles from riot-torn Watts neighborhood), the company instituted an open occupancy policy and says 90% of its inquiries come from Negroes. About 20% of the residents now are Negro.

Says Mallen: "We feel that by giving people a little breathing space here we can contribute toward relieving tensions. We hope this will end up as a model community where whites and Negroes can live side by side."



WARTIME HOUSING is structurally sound but needed new kitchen and bath fixtures inside. Rehabilitation costs added about 40% to rents, but top is still low for Los Angeles.

Who air conditions cowboys?

Day & Night, that's who. We air condition cowboys, babies, mothers. *People,* not just homes, stores and offices. We keep telling people...millions of people...how dependably Day & Night air conditions their cowboys, babies, mothers and other members of the family.

Day & Night ads (the picture above is from one) appear regularly in *Life, Saturday Evening Post, Better Homes & Gardens, Good Housekeeping.* Plus those widely used plan books of *House Beautiful* and *House & Garden.* This advertising presells people you wish to sell.

And there's a Day & Night system to fit virtually any air conditioning job, in homes, apartments, office and commercial structures. 2 to 15 ton units, conventional, heat pump (with or without supplementary heating coil), heating and cooling together or separate, inside or outside, electric or gas-and-electric (the famous Duopac). Yes, Day & Night will help you sell homes. So, ride 'em cowboy! For more details, see your Day & Night dealer. Or write:

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Circle 35 on Reader Service Card

Madway Homes and Canaveral International improve profit

Madway Main Line Homes Inc., Wayne, Pa., has just disclosed 1965 after-tax earnings of $310,363 on $15,688,046 in sales of its factory-built homes. That's a sharp reversal of the 1964 picture—a pre-tax loss of $755,127, reduced by income tax carryback provisions to $351,789, on sales of $7,730,312.

The highly encouraging 1965 performance brought a prediction of more of the same from President Ralph K. Madway.

"We are confident, on the basis of the reversal plus the outlook for increased demand in our various housing markets, that Madway is entering a period of consistent and profitable growth," he said.

Profit habit. A second corporation to stage a turnaround is Canaveral International, the diversified Florida land developer with headquarters in Miami Beach. Canaveral closed out an unsuccessful venture with a floating hotel anchored off Grand Bahama Island by paying $211,000 to Barclay's Bank of London, which had seized the ship as mortgagee. With this drain on assets stopped, Canaveral now reports net income of $1,043,306 on gross revenue of $2,796,607 for the fiscal year ending September 30, 1965. That compares with a loss of $2,779,175 on revenues of $2,132,916 a year earlier. The company's major land development is Canaveral Groves Estates near Cape Kennedy.

MADWAY

HUNT

Sales talk. Another Florida developer, Coral Ridge Properties of Fort Lauderdale, has begun negotiating to sell out to Westinghouse Electric Corp. (Pittsburgh) for common stock. Coral Ridge, created and run by the millionaire auto dealer James Hunt Sr. (NEWS, May '65), has a profit record unmatched in Florida land development. It has never lost money in its 22 years; its net has never dropped below $1 million since it went public six years ago, and it earned $1.6 million in fiscal 1965.

Getting out. In Los Angeles, National General Corp. announced that it was quitting housing and land development to concentrate on its theatre chain. It is selling to Sunset International its interest in joint ventures that include subdivision acreage near Sacramento and in Marin County, and a shopping center near San Diego. Sunset is paying $5 million in debentures and notes.

Del Webb loses $13 million; Deltona, Scholz Homes Gain

Del E. Webb Corp. has reported a loss of $13.4 million for 1965, a sharp contrast with its net profit of $1,855,068, or 28¢ a share for 1964.

The Phoenix construction company has interests in hotels, shopping centers, office buildings, apartments and community developments.

Vice President William Berry blamed the red ink on softness in the real estate market and high expense of office buildings.

Two other companies reported sharp profit gains. Deltona, the Florida land developer, earned $1,558,595, or $1.20 a share, on $15.6 million in sales. This is a 25% increase over the 1964 profit of $1,247,132 on $17.7 million sales. And Scholz Homes of Toledo, Ohio, reported a net profit of $419,217, a 125% increase over the $196,122 earned in 1964. Sales were $11 million, up from $8.7 million.

NEWS continued on p. 22

Flynn leaves Inland Homes; Thomas Ferguson taking over

John J. Flynn has just resigned as president and chief executive of Inland Homes Corp. of Piqua, Ohio. Executive Vice President Thomas S. Ferguson has become the new chief officer of the home-manufacturing firm.

A source close to the company says a personality clash forced the change. His conclusion: "Incompatability."

Flynn became president in June, 1964, succeeding the late E. E. Kurtz, chairman, president and founder. Ferguson has been with the company since 1955 and has been vice president of manufacturing since 1961. Inland's net for the nine months ending Oct. 31, was $95,504 on sales of $3.6 million compared with $309,580 on $4.8 million in the same 1964 period.

Building stocks. Mortgage banking shares, buoyed by a strong showing by Mortgage Guaranty Insurance Corp. of Milwaukee (*see chart*), were the only category of stocks to advance in HOUSE & HOME's monthly averages of 77 building issues. Savings and loan shares were off 9% on several discouraging annual reports from the West Coast. Averages:

	Jan. 13	Feb. 7	Mar. 15
Building	5.34	5.56	5.26
Prefabrication	4.24	4.18	4.03
S&Ls	10.43	10.18	9.43
Mortgage banking	13.90	13.29	13.72
Land development	6.49	6.46	6.44
Average	7.98	7.86	7.32

HOUSING'S STOCK PRICES

COMPANY	Mar. 15 Bid/ Close	Chng. Prev. Mon.
BUILDING		
• Adler-Built Inc.	5/8	+ 1/2
• Capital Bld. Ind.	65¢	− 4¢
Cons Bldg. (Can.)	2.25	+ 15¢
• Dev. Corp. Amer.	1	
Dover Const.	2	.....
Edwards Eng.	3	+ 1/2
Edwards Inds.	1 1/4	+ 1/8
Eichler Homes[h]	2.35[d]	− 30¢
• First Hartford Rlty	7	+ 7/8
First Nat. Rlty.[b]	1/2	− 1
• Frouge	4	− 1
General Bldrs.[b]	2 1/4	− 1/8
Kavanagh-Smith	3 3/8	− 1/4
Kaufman & Bd.[b]	13 5/8	+ 1/8
Levitt[b]	14	+ 1 5/8
Lou Lesser Ent.[b]	3 5/8	− 1/8
Lusk	3/16	.....
Pres. Real. A.[b]	10 1/4	+ 1/2
• Sproul Homes	2 3/8	.....
U.S. Home & Dev.	5/8	.....
Jim Walter[c]	20 7/8	− 1 5/8
Del. E. Webb[c]	4	− 3/8
PREFABRICATION		
Admiral Homes	1 1/4	+ 1/8
Albee Homes	2[d]	− 1/2
• Continental Homes	2 1/2	− 1/4
Gt. Lakes Homes	1 3/8	− 1/8
Inland Homes[b]	5 1/8[d]	− 5/8
Madway Mainline	12	+ 1/2
Modern Homes	2 5/8[d]	− 1/2
Natl. Homes A.[g]	4 3/8	.....
• Nationwide Homes	1 3/8	− 2 3/4
• Scholz Homes	5 3/8	− 1/8
• Seaboard Homes	1/8	+ 7¢
Steel Crest Homes	5 3/8	− 1/8
Swift Industries	2 1/8	− 1/8
S&Ls		
American Fin.	13	− 1 3/8[x]
Calif. Fin.[c]	5 1/4	+ 3/4
• Columbia	4 1/2	.....
Empire Fin.	8	− 1/8
Equitable S&L	15 1/8	− 1 1/8
Far West Fin.[c]	10	− 2 7/8
Fin. Fed.[c]	18 1/2	− 3
First Char. Fin.[c]	16 5/8	− 1 5/8
First Fin. West	6	− 1/8
First Lincoln Fin.	8 3/4	+ 1/8
First Surety	4 3/4	+ 1 3/8
First West Fin.[c]	4 3/4	− 1/4
Gibraltar Fin.[c]	17 3/4	− 1 1/4
Great West. Fin.[c]	9	− 7/8
Hawthorne Fin.	8	+ 1/8
Lytton Fin.[c]	8 3/8	− 1/8
Midwestern Fin.[b]	3 1/4	− 1/8
San Diego Imp.[c]	6 3/4	− 1/2
Trans-Cst. Inv.	3 7/8	.....
Trans Wrld. Fin.[c]	8 1/2	− 1/2
Union Fin.	8 1/8	.....
United Fin. Cal.[c]	7 1/2	− 7/8
Wesco Fin.[c]	15 1/2	− 2 7/8
MORTGAGE BANKING		
Advance	8 3/8	− 1/8
• Amer. Mort. Ins.	9 1/4	+ 1/4
Associated Mtg.	7 1/4[d]	− 1/8
• Atlas Cred.[c]	7 7/8	− 1 1/8
Charter	4 5/8	+ 1 1/8
Colwell	18	− 1
Cont. Mtg. Inv.[c]	29	− 1 7/8
• Cont. Mtg. Ins.	6 3/4	− 5/8
• FNMA	76 1/2	− 10 1/2
First Mtg. Inv.	16 1/2	− 5/8
• Kissell Mtg.[b]	5 1/8[d]	.....
Lomas & Net. Fin[p]	2 7/8[d]	− 1/4
MGIC[b]	29 3/8	+ 4 1/2
• Mortg. Assoc.	4 3/4	− 1/4
• Southeast Mtg. Inv.	10 3/8	+ 3/8
United Imp. & Inv.[b]	5 3/4	+ 1/4
LAND DEVELOPMENT		
All-State Prop.	44¢	+ 11¢
• American Land	1	− 1/8
Am. Rlty. & Pet.[b]	2 3/4	− 1/4
Arvida	7 1/2	− 3/4
Atlantic Imp.	20 1/2[d]	− 2 1/2
Canaveral Intl.[b]	3	+ 1/8
Christiana O.[b]	4 5/8	− 1/4
Coral Ridge Prop.	6 5/8	+ 2
Cousins Props.	13	+ 1/4
Crawford	2 3/4	.....
Deltona Corp.[b]	13 3/8	+ 1/8
• Disc Inc.	2 7/8[d]	+ 3/8
Fla. Palm-Aire	2 3/8	+ 1/4
Forest City Ent.[b]	5[d]	− 3/8
Garden Land	4 3/8	− 1/8
Gen. Devel[b]	5	+ 1/8
Gulf American[b]	11 1/2	+ 1 5/8
Holly Corp.[b]	1 1/8	.....
Horizon Land	3 1/8	− 1/2
Laguna Nig. A.[h]	11 5/8[d]	+ 1 1/4
• Laguna Nig. B.[h]	3 3/4	− 1/2
Lake Arrowhead	6 1/2	− 1
• Macco Rlty.	11 7/8	− 1 1/8
• Major Rlty.	48¢	+ 10¢
• McCulloch Oil[b]	11	+ 2
So. Rlty. & Util.[b]	3 1/8[d]	− 1/4
Sunset Int. Pet.[b]	6 7/8	− 1/4

a—stock newly added to table. b—closing price ASE. c—closing price NYSE. d—not traded on date quoted. g—closing price MSE. h—closing price PCSE. k—not available. p—formerly Wallace Investments. •—not included in averages. x—adjusted for 4-for-3 split.

Sources: New York Hanseatic Corp., Gairdner & Co., National Assn. of Securities Dealers, Philip Beer of Russell & Saxe, American Stock Exchange, New York Stock Exchange, Midwest Stock Exchange, Pacific Coast Stock Exchange. Listings include only companies which derive a major part of their income from housing activity and are actively traded.

SHORT-TERM BUSINESS LOAN RATES

Percent interest and (net change) in year

LOAN SIZE (000)	New York City	7 other Northern & Eastern cities	11 Southern & Western cities
$1-10	5.74 (+.15)	5.95 (+.11)	6.07 (+.11)
$10-100	5.59 (+.24)	5.80 (+.22)	5.80 (+.13)
$100-200	5.34 (+.26)	5.56 (+.25)	5.59 (+.13)
$200 & over	4.99 (+.33)	5.19 (+.31)	5.23 (+.17)

Source: Federal Reserve Board, December, 1965.

How Geon vinyl helps Andersen Perma-Shield Windows promise "lifetime maintenance savings"

They call this the window "that does not need painting. Nor scraping. Nor rubbing down. With a finish that won't pit. Won't corrode. Won't dent. Won't warp. Can't rust. And stubbornly resists scratching." ☐ Geon vinyl makes it true. Thick rigid vinyl is extruded directly over a wood core, giving the finished window an all-vinyl exterior. Maintenance problems are almost totally eliminated. ☐ As manufacturers of building products discover the advantages of Geon vinyl, you find them using it more and more—in siding, electrical conduit, pipe, baseboard raceways, built-in vacuum tubing, shutters, and many others. For additional information on the use of Geon vinyl in building products, write B.F.Goodrich Chemical Company, Dept. H-3, 3135 Euclid Avenue, Cleveland, Ohio 44115.

Geon VINYLS THE MATERIAL DIFFERENCE IN BUILDING

B.F.Goodrich **B.F.Goodrich Chemical Company**
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Circle 36 on Reader Service Card

Where the housing dollar goes—House & Home's cost guide

This is the second of HOUSE & HOME's quarterly reports on construction costs; information was supplied by two building firms and one home manufacturer. A comparison with January's report, which included the same three sources, will show several marked changes. This is due not to errors in the earlier figures but to different methods of cost breakdowns which the companies made in order to provide more nearly standard methods of reporting.

Figures are installed unit costs, including labor and materials, reported to HOUSE & HOME, Mar. 1, 1965.

	Kingsberry Homes Atlanta	Centennial Construction Co. Dallas	R.A. Watt Inc. Los Angeles
FOOTING 8"x16", excavation and pour, per lin. ft.	$0.67	$....	$0.90
FOUNDATION WALLS 8"x8"x16" hollow block, per sq. ft.	0.45	....	1.10
SLABS 4" thick on 4" gravel sub-base, #10 wire mesh, per sq. ft.	0.41	0.78[5]	0.57
FLOOR FRAMING 2"x10"x16" oc, ½" ply subfloor, per sq. ft.	0.42	....	0.40
EXTERIOR WALLS frame, ½" dry wall taped 2" insul., fiberboard sheathed, per sq. ft.	0.53	0.49	0.93
ROOF 28' trusses, ½" plysheathing, 235 lb. asphalt shingles, per sq. ft.	0.52	0.65[6]	0.53
EXTERIOR SIDING preprimed bevel redwood, ⅝"x8", per sq. ft.	0.22	0.24	0.46
MASONRY VENEER full thick brick, per sq. ft.	0.70	0.70[6]	1.40
EXTERIOR TRIM cornice, eaves, rake, per sq. ft.	0.55[1]	0.56[7]	0.51
INTERIOR WALLS frame ½" dry wall, taped, both sides, per sq. ft.	....	0.45	0.46
WINDOWS single glazed, per sq. ft.	1.70[2]	0.92	0.65
FLOORING finished oak, per sq. ft.	0.43	....	0.56
FLOORING vinyl asbestos with underlayment, per sq. ft.	0.45	0.28[8]	0.45
KITCHEN COUNTERS including molded backsplash, per sq. ft.	2.40	5.00	2.50
KITCHEN CABINETS finished, wood, per sq. ft. of exposed face	3.75	3.90	2.75
DOORS, INTERIOR including trim and lockset, per opening	18.43[3]	17.50	17.50
STAIRS oak, 3' wide finished, per floor	63.63	....	100.00
PLUMBING including supply, waste and vent, two-bath house, per fixture	130.14	130.00	133.00
ELECTRIC 2-wire #12, including entrance panel, 100 amp service, per outlet	7.21	8.38	5.25
HEATING warm air, per 1,000 btu heat loss	3.51	3.73	3.00
HEATING hot water radiant, per 1,000 btu heat loss	6.80	....	4.40
COOLING central a/c, per 1,000 btu heat gain	25.00[4]	24.00[4]	....
PAINTING two coats exterior, per sq. ft.	0.09	0.05[9]	0.06
PAINTING interior two coats, per sq. ft.	0.06	0.05	0.05
CERAMIC TILE per sq. ft.	1.60	1.25	1.75

NOTES:

1. Primed, 26" overhang, continuous vent, 1 x 12 frieze board.
2. Wood double-hung, primed, includes interior and exterior trim and screen.
3. Prefinished.
4. Includes duct insulation and vapor barriers around ducts but not ducts themselves, which are part of warm air heating package.
5. Includes strengthening beams as monolithic parts of slab for soil with high plasticity.
6. Sheathing is ⅜" plywood.
7. Overlaid plywood, redwood facia.
8. No underlayment (not required).
9. Spray painted.
10. Price is per lin. ft.
11. Price is per riser.

Beveled edge of new Kentile® Featured Travertine creates a feature strip effect. Tile is 12″ x 12″ x .080″ solid vinyl in 4 colors shown. Deeply textured like natural travertine. Quiet, comfortable underfoot. Long wearing. Easy to maintain in commercial or residential use. Greaseproof.

KENTILE

VINYL FLOORS

New! Featured Travertine with the beveled edge built in.

Note the custom look! Kentile's new Featured Travertine is solid vinyl tile with the beauty of hand-cut marble—but not the cost! Use it in any decor. Ask your flooring man.

If Catherine de Medici were here today...

She'd want Moe Light in her dining room

A Moe Light chandelier adds a touch of royalty to any type of decor . . . gives modern day queens something special to remember about your homes. For more ways to give your homes extra appeal with lighting, write to Moe Light, Thomas Industries Inc., 207 E. Broadway, Louisville, Ky.

MOE LIGHT

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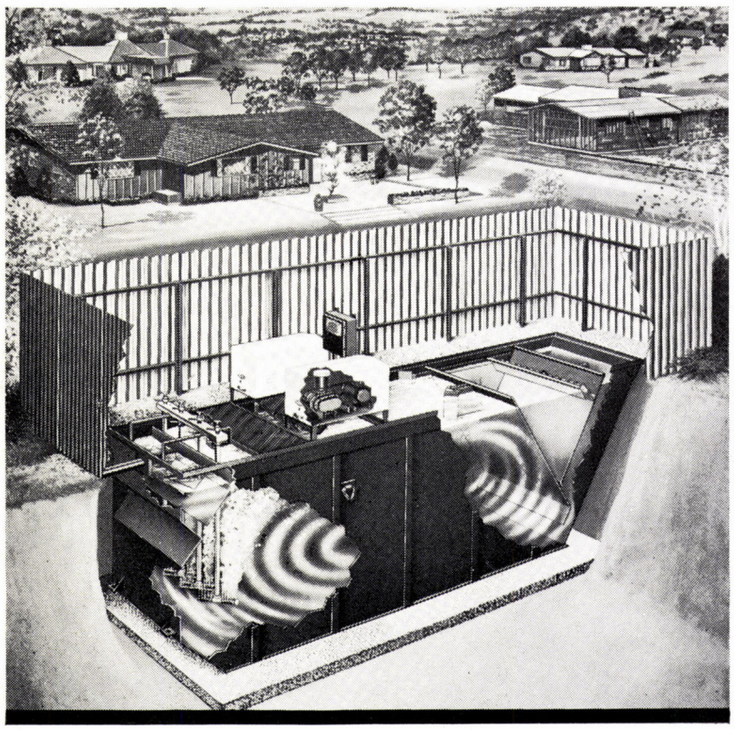
Growing Subdivisions Get Dependable Sewage Treatment with the *Smith & Loveless*® Factory-Built "OXIGEST"®



Builders and developers everywhere are finding the factory-built Smith & Loveless "Oxigest" an efficient, dependable means for treating domestic sewage beyond municipal facilities.

Compact design reduces amount of land needed for plant site. Odor-free operation permits "Oxigest" sewage treatment plant to be located close to the facility it serves. The plant is completely factory-built, can be installed in less than a day. Patented non-mechanical automatic surface skimmer and positive sludge-return system. Many plant features designed to keep maintenance time and cost at a minimum. Single plant capacities from 20 to 350 persons per day . . . parallel installations offer an economical way to keep pace with growing needs. Capacities to over 10,000 persons per day available with factory-fabricated, field-erected "Oxigests."

The "Oxigest" produces a clear, nuisance-free effluent. Built-in quality and performance by the world's largest manufacturer of factory-built sewage lift stations and sewage treatment plants.

Ask to see color-sound movies on the many features, installation and maintenance of the Smith & Loveless "Oxigest" on our unique, automatic projector. No obligation.

(5484)

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NEWS
continued from p. 16

Realtors team with public housing to shelter displacees in Lansing

"What we need is instant housing," Mayor **Max Murninghan** of Lansing, Mich., decided when he took office last April. The city (pop.: 113,058) faced a monumental housing shortage as a new interstate highway, industrial plant expansion and urban renewal were poised to demolish 908 houses within months.

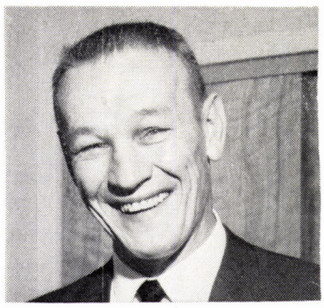
Lansing's vacancy rate hovered near 1%, and available apartments were in the luxury range while the displaced families were mostly low-income and 80% Negro.

Republican Murninghan set a housing committee to work, and out of its study came a unique solution: the Lansing Real Estate Board would become the nation's first realty board to provide "instant housing" while a city Housing Commission was organized to seek federal public housing aid. The agreement marked an historic change for conservative Lansing, which had snubbed public housing subsidies for nearly three decades.

The board organized an independent Lansing Board Rental Corp. and sold stock to about 20 participating realty brokers. **William L. Porter Jr.** became chairman of the company.

To date Rental Corp. has bought seven houses in the $7,000-to-$11,000 range after their owners listed them for sale. City relocation officials have filled the houses with displaced families at rents ranging from $70 to $75 monthly—roughly $50 less than they normally would command—and at the moment Rental Corp. is absorbing the difference.

Pat Mitchell



LANSING'S MURNINGHAN
For a shortage, instant housing

The company does not intend to carry the loss indefinitely; it will begin renting the houses to the Housing Commission as soon as the Public Housing Administration approves a subsidy to take up the slack.

The 1965 Housing Act authorizes leasing plans like Lansing's but PHA questioned Lansing's program on grounds that leasing existing houses might drive up rents. Commission Director **William Mateer** countered that removing vacant houses from the sale market would not hurt the rental market.

Now approval is expected. And as soon as PHA acts, Rental Corp. expects to buy 20 or 30 more houses toward an eventual goal of 100.

Prefabbers try to quadruple size

The Home Manufacturers Assn. has elected **Ralph C. Lester** its new president and handed him a vital building job: quadruple HMA membership from its present 50 companies.

Lester, president and chairman of Continental Homes of Boones Mill, Va., and the new HMA board are expected to cut dues (for the second time in three months) to attract small new prefabbers into the HMA tent. A December dues cut brought in a dozen new members, including some major lumber companies now branching into components.

Until recently, HMA has not tried to recruit components makers because they do not produce complete house packages. But the board—at the suggestion and urging of materials producers—now views component makers as part of the total prefabbing industry. The suppliers estimate there are 600 companies now active in the industry—and only one-third of those would put Lester's membership drive over the top.

OFFICIALS: HHFA's one-time second in command, **Milton P. Semer,** is becoming a White House advisor. He will not specialize in housing matters but will work instead on legal and legislative affairs, says **President Johnson.**

Semer became HHFA general counsel in 1961 and last year took on added duties as deputy to HHFA Administrator (and now Housing Secretary) **Robert Weaver.** His old post lapsed when the Housing and Urban Development Dept. replaced HHFA in January.

HUD continues to reshuffle personnel. **Dwight A. Ink** has moved from the Atomic Energy Commission, where he was assistant general manager, to be HUD's chief administrator for budgets and personnel.

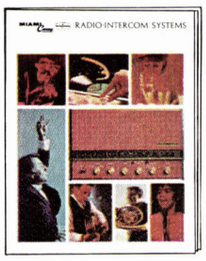
NEWS continued on p. 26

If the looks of this new Radio-Intercom fail to impress you... turn it on.

You are looking at a new Miami-Carey unit with high-fidelity capabilities never before offered in a home radio-intercom system. Superbly engineered around space-age, solid-state circuitry, it delivers sound performance matching some of the finest consoles. In addition, communication functions have been broadened to give greater convenience—and system operation has been simplified. And we think the styling is the most beautiful ever. But don't rely on good looks alone to sell this system.

Turn it on.

The performance is surprising only when you know it costs no more than ordinary radio-intercoms.



For full-color booklet, write Dept. HH-466, Miami-Carey Division, The Philip Carey Mfg. Company, Cincinnati, Ohio 45215.

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Circle 39 on Reader Service Card

Atlanta builder-designer Fred Stillwell has a special

"Building and selling new homes can be a big dice game. When Alcoa helped me eliminate the risks, they were talking my language."

In Fred Stillwell's opinion, one of the best ways to reduce taking chances is to deal with professionals. That's why, when he decided to use aluminum systems in one of his recently completed homes in Atlanta's exclusive Riverside development, Stillwell came to Aluminum Company of America.

Alcoa's soffit and fascia system, gutters and downspouts, siding, and shutters combined to make the Stillwell home cleaner looking and more maintenance-free, and enhanced the authenticity of its Early American design.

And there was no gamble for the builder.

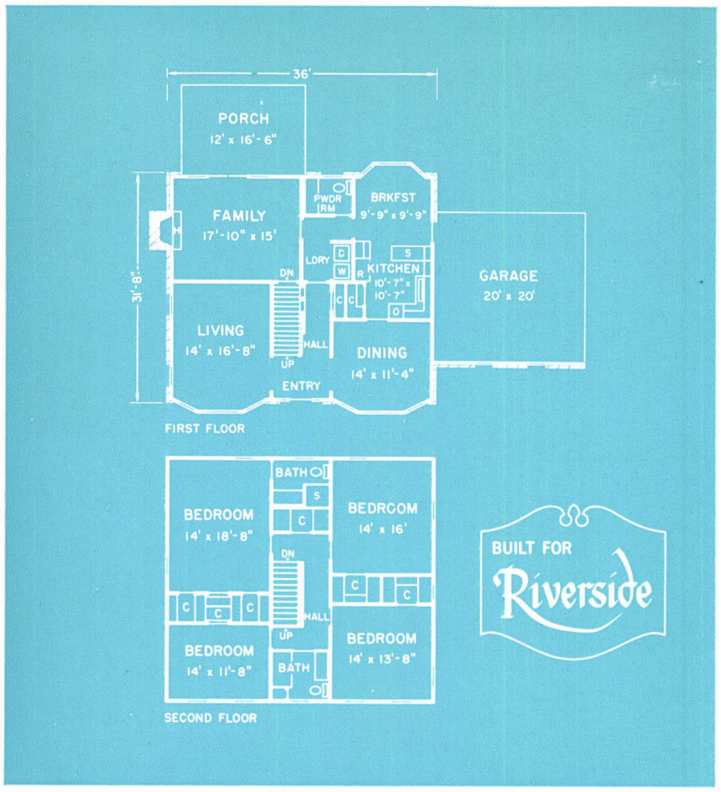
In Stillwell's own words, "I wouldn't even have considered aluminum without the applicator service. If my own men would have worked on the job and mishandled it, I'd have been stuck with the loss of labor, as well as the cost of materials.'

Alcoa's distributor in the Atlanta area, Aluminum Building Products, Inc., solved the problem by recommending a specially qualified crew of field applicators who carried out the job at a guaranteed, contracted fee.

What does Fred Stillwell have in mind for future applications of Alcoa® Aluminum? As far as this cost-savvy builder is concerned, the metal has proved itself as a major material for use in new-home construction.

"The key to Alcoa Siding, for instance," says Stillwell, "is that the new styles look trimmer than conventional siding, without

philosophy on custom home building: Don't gamble.



the problem of splitting, checking or warping. The joining system is really great, as it can be lapped favorably away from the eye. That's where the finesse of the pro comes in. So the low-maintenance aspects take hold with my buyers and, really, make it a better buy."

Designer Stillwell is equally impressed with the other Alcoa systems: "I'm impressed with the soffit system, especially the way it lends itself to my colonial type of design. You get the effect of expensive dental mold.

"You see," explains Stillwell, "when you're talking about eye appeal, you're talking about how well each component part of the house works with the others. Now, with aluminum, you can form systems from the roof line right down to the bottom of the sidewall. *Compatible* systems. And, brother, that's what I want to be talking about in my homes."

If you, like Fred Stillwell, are interested in working with professionals, our building specialists will show you how our experience and know-how can help you with your particular problems in high-, medium- or low-income construction—and eliminate the gamble. Write: Alcoa Building Products, Inc., Dept. HH, 1105 Grant Building, Pittsburgh, Pa. 15219.

Change for the better with Alcoa Aluminum

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ALCOA

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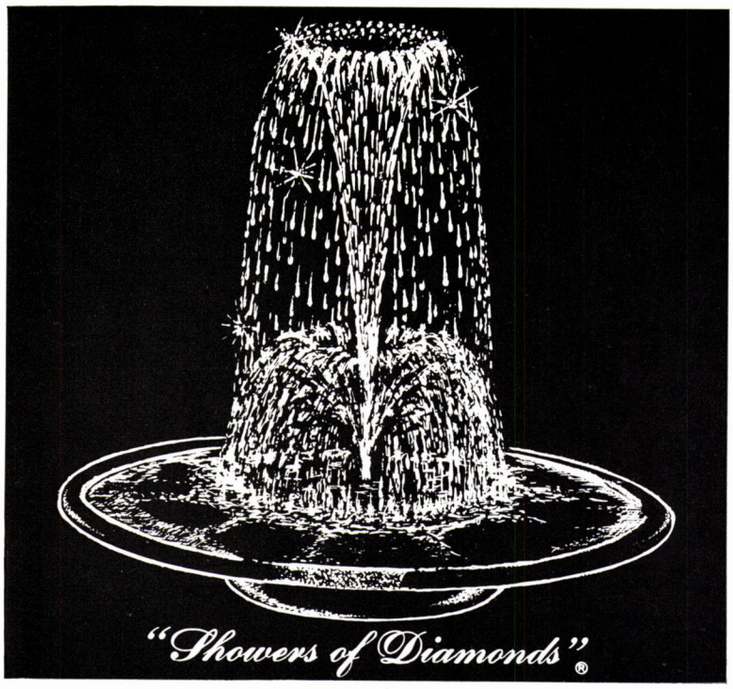

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Only Fountains by Rain Jet form individual water droplets rather than the usual straight water stream. Each water droplet becomes a diamond-like prism, capturing the color and brilliance of light. The result is breathtaking! Bowl assemblies from $275 • **HOMES**: Sizes and models for 4½ ft. bowls and larger • **COMMERCIAL**: Single and multiple assemblies. Spectaculars for larger pools • **ARCHITECTURAL**: Custom designed fountains of any size. Unlimited designs.

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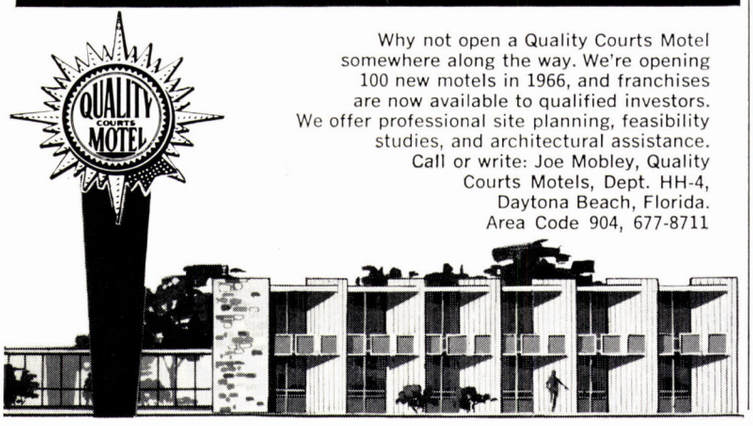
41,000 miles of new interstate highways will be open by 1975.



Why not open a Quality Courts Motel somewhere along the way. We're opening 100 new motels in 1966, and franchises are now available to qualified investors. We offer professional site planning, feasibility studies, and architectural assistance. Call or write: Joe Mobley, Quality Courts Motels, Dept. HH-4, Daytona Beach, Florida. Area Code 904, 677-8711

NEWS

continued from p. 22

Back in black: Fox & Jacobs profits under Dave Fox's new leadership

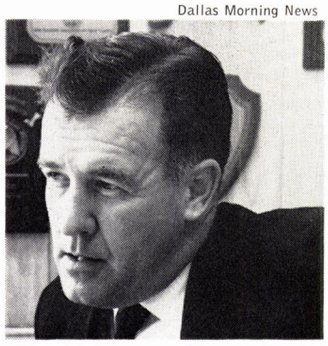
The big Dallas homebuilding company has returned to the profit road since **Dave Fox** took over the presidency. Fox, 42, had left F&J four years ago to manage personal business affairs. But when President **Ike P. Jacobs** died last July, Ike's brother Joe, executor of the estate, persuaded Fox to return.

The company's sales were a record $7 million in calendar 1965—up from $4½ million the previous year. But the figures were deceptive. The company's eye-popping expansion netted "a lot of unprofitable sales," Fox explains. So he has begun a no-nonsense consolidation.

The company built 300 homes in seven locations last year. Fox has cut back to three subdivisions in North Dallas, and his 1966 projection is a volume of $4.25 million on 200 sales. Yet his January-February sales in the three North Dallas tracts outpaced sales at all seven sites during the same 1965 period.

Fox does not judge success in terms of sales alone. "We have cut overhead in half and built a better operations base," he explains. "We sold $1½ to $2 million worth of land and still have $1 million worth to sell, for we can put that money to better use. Instead of 20 phone lines we have five, and our office is now much smaller than it was."

Dallas Morning News



THE FOX OF FOX & JACOBS
Back in command

Fox phased out an expensive automated bookkeeping setup and swung into NAHB's uniform system of accounts. ("A tremendous boon to control of the company." (He discontinued the apartment contracting that Jacobs had begun, he pulled out of Houston and cancelled a move into Washington. "There is a big market there [in Washington], but we don't feel we are ready to move."

But Fox is pushing ahead with a franchise operation for package houses to be sold and assembled by dealers from Pensacola, Fla., to New Mexico. "We'll do close to $1 million this year," he says, "slightly above last year's volume."

Max Pringle retires from mortgage firm

J. Maxwell Pringle has just resigned as vice chairman and a director of J. Maxwell Pringle & Co., but lenders and builders have not heard the last of this colorful dean of the New York mortgage fraternity.

Pringle will develop his market letter, now appearing five times a year, into a monthly subscription publication. The highly personalized Pringle commentary is known throughout the mortgage business as one of the liveliest and most informative of all mortgage publications.

It was in 1935 that Pringle analyzed the new FHA lending operation and theorized that banks would "buy" FHA loans. He pursuaded the New York Stock Exchange firm of Stern, Lauer & Co. to found one of the private financial community's first FHA departments.

Pringle founded Pringle-Hurd Inc. as a mortgage brokerage in 1952 and converted it into J. Maxwell Pringle & Co. when **Richard Hurd** departed in 1956. Pringle was placing $150 million a year in mortgages when he sold the company to Associated Mortgage Companies of Washington in 1963. He remained president of Pringle until 1965. He is 70.

PRODUCERS: **Walter E. Hoadley,** oft-quoted housing economist for Armstrong Cork Co., has become senior vice president and chief economist for Bank of America in San Francisco.

REDEVELOPERS: Kansas City Redeveloper **Lewis Kitchen** has snared a choice 13 acres in Los Angeles' Bunker Hill project. There he will build the Coast city's first major downtown apartment complex with a total of 1,700 units. Kitchen's City Reconstruction Corp. paid $3,875,000 for the land. The transaction disclosed that Prudential Insurance Co. holds a major interest in CRC (NEWS, July).

ASSOCIATIONS: **Thomas C. Brickle,** 31, a former Justice Dept. attorney-examiner, is the new legislative representative for the National Lumber and Building Material Dealers Assn.

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Circle 43 on Reader Service Card ➤

If you don't find at least 10 New Lighting Ideas in this all new, full color catalog, Artolier will refund your dollar.

We've never been so sure of ourselves. Eighty provocative pages filled with the richly fashioned quality lighting by Artolier, setting a mood to fire the imagination of any inspired profit-conscious builder. You'll find newer and brighter ways to sell your home by decorating with the quality and master craftsmanship of Artolier lighting. Living rooms, hallways, foyers, dining areas, bathrooms, patios, entranceways, dens, lawns, kitchens and playrooms—interior or exterior—Artolier was designed for the home, you decide where. Get your catalog by filling out the coupon today. **ARTOLIER** (Division of Emerson Electric), Dept. BD., Garfield, New Jersey.

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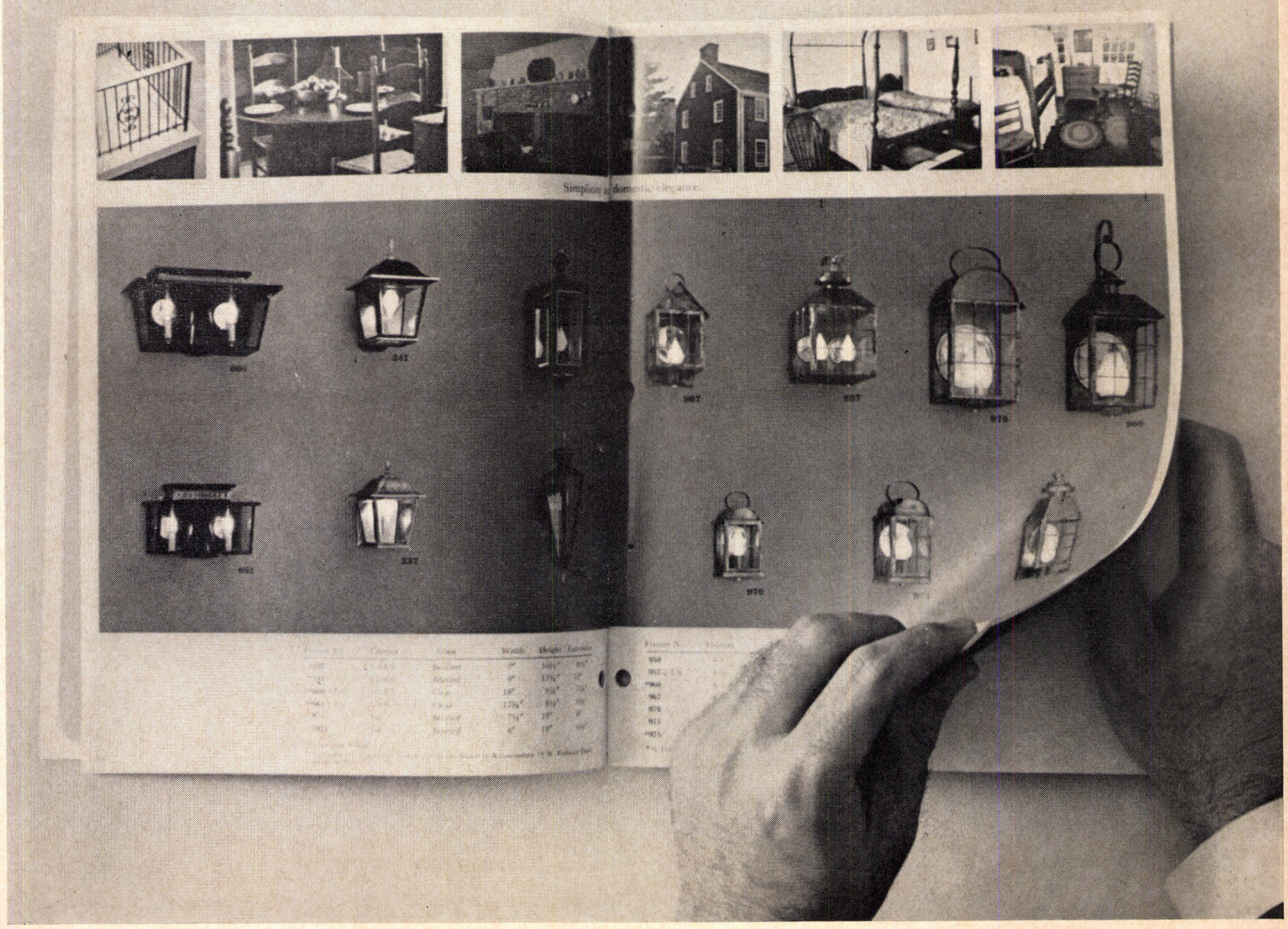

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KEEP

NOT EVERYBODY CAN BUY A

Unless you want air conditioning, it's no sale.

Of course, every prospect has his choice. Bryant gas or electric air conditioning.

But every one of the 500 houses in this North Dallas development will be air conditioned. And every unit will be a Bryant.

The builder figures that Bryant Air Conditioning makes good sense.

Only Bryant provides both gas air conditioning *and* electric air conditioning.

And with 300 homes already sold,

OUT°

HOUSE FROM PRINCESS HOMES.

it looks like his figuring is paying off.

Moreover, the progressive marketing help of the gas company has convinced about 70% to pick gas cooling.

Not everybody can buy a Princess Home. Frankly, there just won't be enough to go around.

Your Bryant dealer, distributor, factory branch or gas company can give you complete information.

Bryant Manufacturing Company, Indianapolis, Indiana 46207.

bryant

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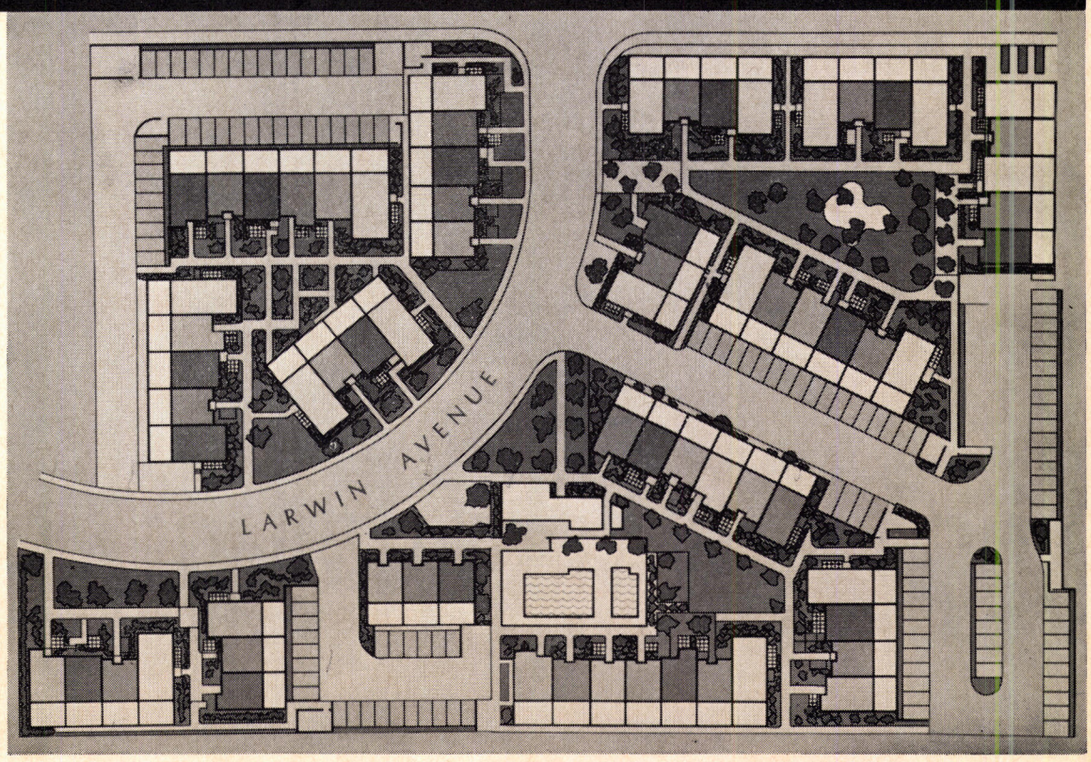
Los Angeles/Tanglewood Townhomes, a unique park-setting rowhouse concept (see plot plan below), developed by the Larwin Company, opens new vistas on the under-$25,000 homebuying market.

It's hard to please everybody.

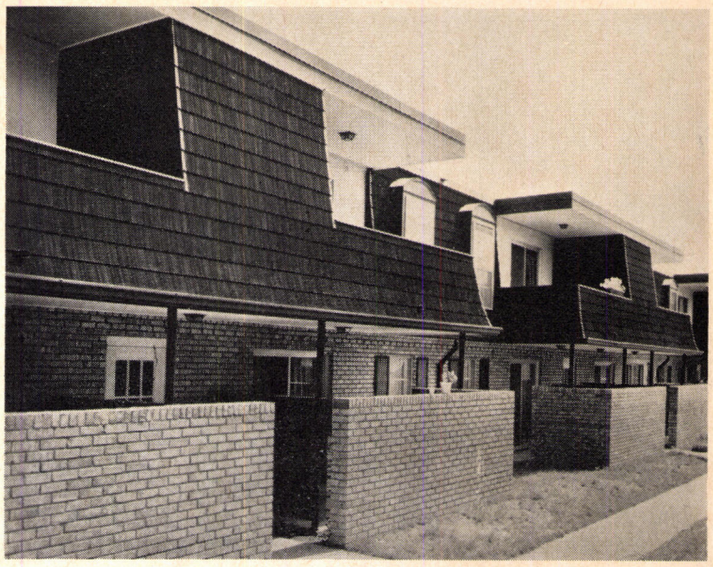
But the odds get better when you start with Red Cedar.

Tanglewood Townhomes (see caption above) is part of a projected $29 million development. It features area parks, underground utilities, swimming pools . . . and shake-covered mansard roofs. The shakes are Certi-Split handsplit/resawn 24", ¾" to 1¼" butts, laid 10" to the weather.



Houston/Carriage Park is a remarkably fresh-looking apartment development. Developers of the project are Tex-Craft Builders, Inc. Red cedar shingles on the mansard roofs are Certigrade, 18" Red Label grade with 8" to the weather.

Indianapolis/Westlake Knoll, a 212-unit apartment development built by Gateway Corporation, features Certigroove sidewall shakes in a striking mansard application. An additional 1,000 apartment units are planned for the site. The Certigroove shakes (with factory-applied stain) are 18" long with 8" to the weather.



Big developers who must depend on prompt and continuing public acceptance to keep their apartments filled—or to sell what they've built—often feature red cedar shingles and handsplit shakes these days.

People like the product. They recognize it. They trust it. And they assume that the builder who used it has constructed something above average all the way around.

The same benefits fall to the builder of individual homes. He finds it easier to attract prospects, and to sell them on red cedar's natural, rich look, its durability, freedom from maintenance—and good resale value.

It is a fact that more and more builders are using red cedar shingle and handsplit shake roofing—and are coming out with good profits.

There's a lot of information that could be useful to you and your salesmen in our Sweet's Light Construction Catalog listing, 3d/Re. It covers the story of red cedar, and the uses of Certigrade shingles, Certi-Split handsplit shakes and Certigroove sidewall shakes on roofs and sidewalls. For more information—including the latest tips on fast, dependable application—just write or give us a call.

These labels under the bandsticks or on cartons of red cedar shingles, handsplit shakes and grooved shakes are your guarantee of Bureau-graded quality. Insist on them.

RED CEDAR SHINGLE & HANDSPLIT SHAKE BUREAU

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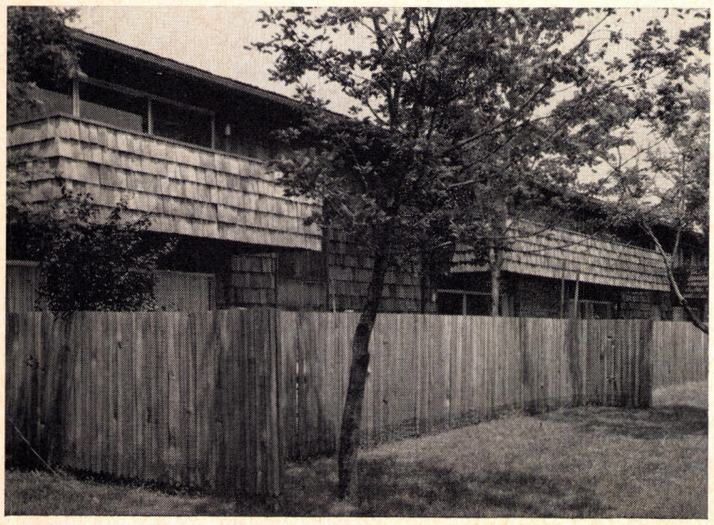
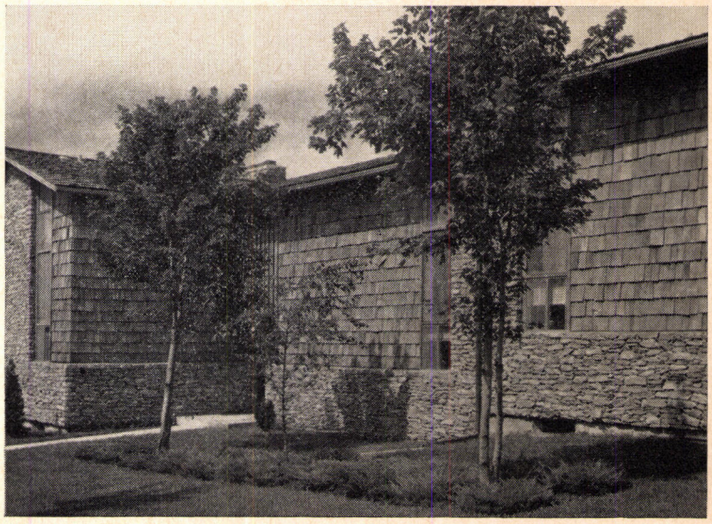
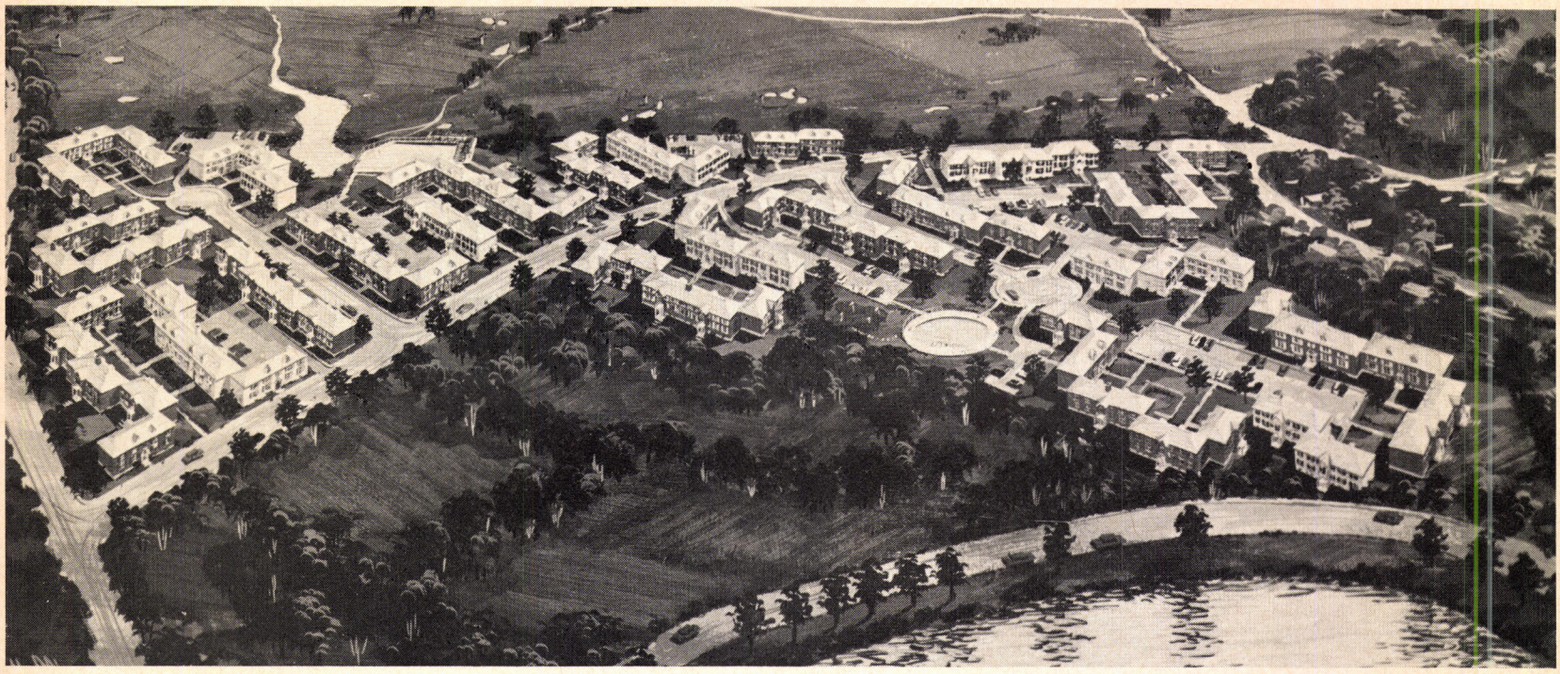




Kansas City, Mo. / Mission Valley, a luxurious 90-unit garden apartment complex in Prairie Village, (near Kansas City) is a joint development of Builder Max Okun and the nationally respected J. C. Nichols Company. Tenants enjoy many extras, including 16' x 12' bedrooms. Roofs, sidewalls and balconies all are clad in Certi-Split handsplit / resawn shakes, 24" long, ¾" to 1¼" butts, with 7" to the weather.

Circle 46 on Reader Service Card

Towne Estates is located in Chestnut Hill, Mass. in a quiet rural setting among country clubs, churches, schools and estates. It contains 360 units with 90 buildings, each having only four apartments. Recreational facilities include two swimming pools and two putting greens. Both developments were built by the Lilly Construction Company.



Sargent Estates Manor in Brookline, Mass. provides "country living in the city". Has six floors with 95 luxurious apartments. Surrounded by a lovely park setting, yet only minutes away from downtown Boston. Each unit features colored appliances.

"Our tenants love the appliances... and we're sold on WHIRLPOOL'S Full-Line Concept"

says Myron Widett, President, Construction Finance Corporation, Boston, Massachusetts – Mr. Widett, who introduced and has developed more garden-type apartments in the New England area than any other developer, has been specifying RCA WHIRLPOOL appliances in his projects for the past several years. "Our occupants like the quality performance and modern design of RCA WHIRLPOOL appliances", said Mr. Widett. "The Full-Line Concept has been very beneficial to our operation. And, of course, we appreciate the prompt attention and service that we receive from Whirlpool", he added.

FULL-LINE CONCEPT
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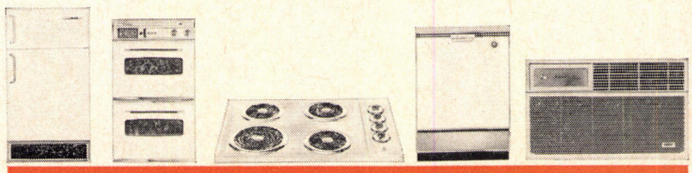
Whirlpool's Full-Line Concept is saving time and headaches for many other successful developers and builders throughout the country. Why? You work with *one man* instead of three or four. You sign one order and get undivided responsibility because you have *one dependable source* for any appliance a kitchen might need . . . *gas or electric*. And they are all design and color coordinated, so there's no mismatching. Call your distributor now for the complete story about RCA WHIRLPOOL gas and electric appliances.



RCA Whirlpool

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Shouldn't you include better heating in your options to today's buyers?

A hydronic system can swing the sale!

More and more builders are "sweetening" their sales appeal with buyer options. Why not offer one that really appeals to comfort-conscious buyers—a quality hydronic heating system? This modern version of hot water heating puts a clean, even wall of warmth around the home. There are no drafts, hot spots or noises. No decorating problems. All these points make mighty fine listening to the smart second- and third-home buyers you deal with in today's market. They'll certainly be impressed if they have ever lived with a poor heating system. And here's the best news: *Hydronic heating can be competitive with warm air.* Two men can usually install it, complete, in a single day. The new boilers, of sturdy cast iron, go almost anywhere. They take only 2 by 3 feet of space and are available for gas or oil. The trim, wall-hugging Heatrim* baseboard panels for circulating hot water take no room space at all. The lady can hang floor-to-ceiling draperies and place her furniture as she pleases. Before you make another start, see your American-Standard contractor for the facts about the new equipment and installation techniques that make American-Standard hydronic heat competitive with warm air. Or write American-Standard, Plumbing and Heating Division, 40 West 40th Street, New York, N.Y. 10018.

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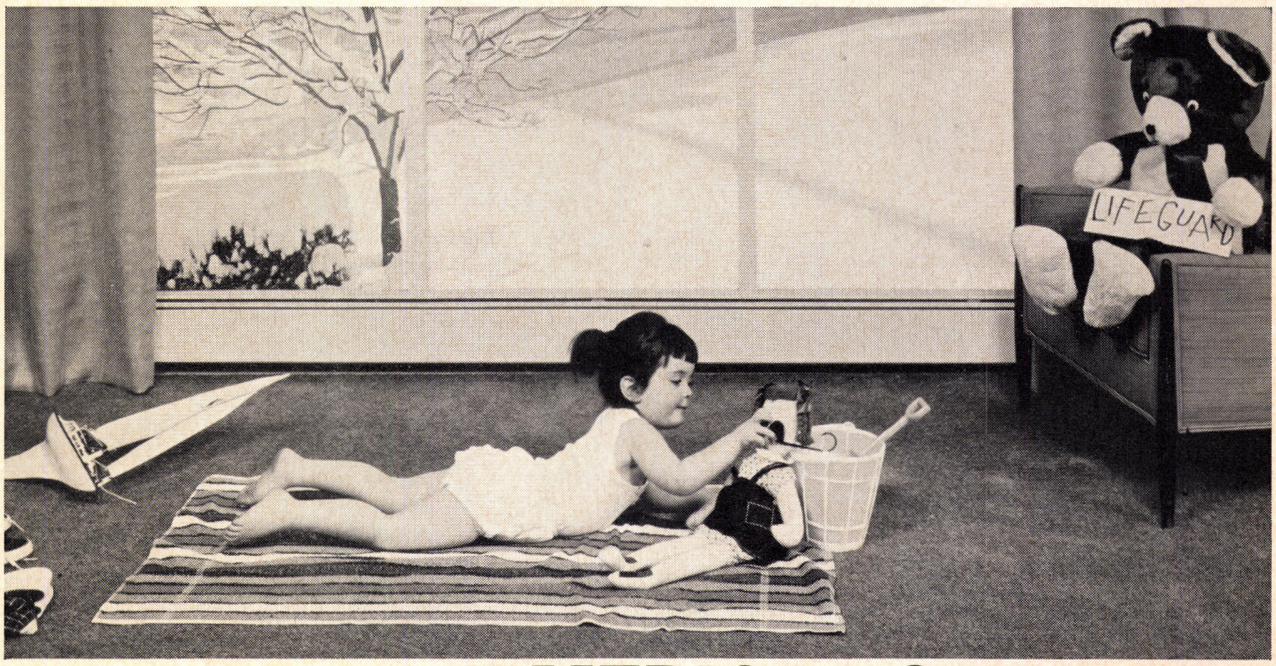

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CALIFORNIA—ALHAMBRA: Apartment, $705,000. Sponsor: Jensen Builders. DAIRY VALLEY: 450 houses, $9 million. Builder: Dairy Valley Assoc., Los Angeles. Plans: Earl G. Kaltenbach & Assoc., Santa Ana. LOS ANGELES: Houses, apartment, recreational facilities & shopping center, $3 million. Sponsor: T&J Developers. Plans: John J. Kewell & Assoc. ORANGE: Apartments, $2 million. Sponsor: McComb & Rosenburgh. PALM SPRINGS: Apartment, $2 million. Sponsor: Simon & Pastel. Plans: Nyberg & Bissner, Pasadena. PLACENTIA: 144 houses, $3.5 million. Builder: Presley-DeYoung Development, Costa Mesa. Plans: Earl G. Kaltenbach, Santa Ana. SAN DIEGO: Townhouses & apartment, $2 million. Sponsor: Tavares Construction, La Jolla; 150 houses, $3.5 million. Builder: Tech-Bilt Homes. Plans: Earl G. Kaltenbach, Santa Ana. TORRANCE: 48 houses, $810,000. Builder: Vincent Grant Inc., San Pedro.

CONNECTICUT—LEBANON: Housing development, $1.2 million. Builder: John H. Woods Inc. Plans: David Butts, Columbia. MONTVILLE: Townhouse apartment, $3 million. Sponsor: Brook Graham Co., Memphis, Tenn. Plans: Good & Goodstein, Knoxville, Tenn. NEW LONDON: Garden apartments, $1.5 million. Sponsor: Suburban Development Corp., Hartford. STAMFORD: Apartment, $1 million. Architect: Joseph Osher & James Mitchess Assoc.; Apartment, $70,000. Sponsor: E. D. Rich Co. Plans: James A. Evans. WATERBURY: Garden apartments, $1 million. Sponsor: John A. Errichetti. Plans: Joseph Stein; 132 houses, $2.5 million. Builder: Harold Grabow, West Hartford. WEST HAVEN: Apartment, $1 million. Architect: Walter Damuck, New Haven.

GEORGIA—ATLANTA: Garden apartments, $2 million. Sponsor: Church Homes Inc. Plans: James C. Wise, Simpson Aiken & Assoc.; Apartment, $600,000. Sponsor: Peachtree Brookhaven Apartments. Plans: Mastin & Assoc. DECATUR: Apartment, $1 million. Sponsor: Thibadeau Shaw & Co. Plans: Enloc-West & Grande, Atlanta; Apartment, $800,000. Sponsor: R. J. Williams Construction. MARIETTA: Garden apartments, $4 million. Sponsor: c/o Bernard Jaffee Inc., Norfolk, Va. Plans: Cohen-Haft & Assoc., Silver Spring, Md.

ILLINOIS—ARLINGTON HEIGHTS: Apartments, $1 million. Architect: Jerrold L. Brim Assoc., Chicago; Apartment, $2 million. Sponsor: Merlin Construction, Barrington. Plans: Thelander-Nelson & Assoc., Chicago. CHICAGO: Apartments, $1,920,000. Sponsor: Rudolph Riemer, Niles. Plans: Tuchschmidt & Assoc.; Row houses, $1 million. Builder: Westgate Urban Developers Inc. Plans: Arpen Group. GRANITE CITY: Apartment, $1.2 million. Sponsor: Town & Campus, Clayton, Mo. Plans: Hastings & Chivetta, Mo. MORRIS: 150 houses, $2 million. Builder: Jean A. McCoy & Sons, Pontiac. NORMAL: Houses, $500,000. Builder: Victor Armstrong & William J. Ohlendorf, Bloomington. Plans: Keith Middleton & Assoc. NORTHBROOK: 100 houses, $3 million. Builder: Ben Sears Construction; 60 houses, $2 million. Builder: Zale Construction, Skokie. Plans: OAK FOREST: Apartments, $1 million. Sponsor: Medema Builders Inc. OTTAWA: Apartments, $1 million. Sponsor: Ottawa Development.

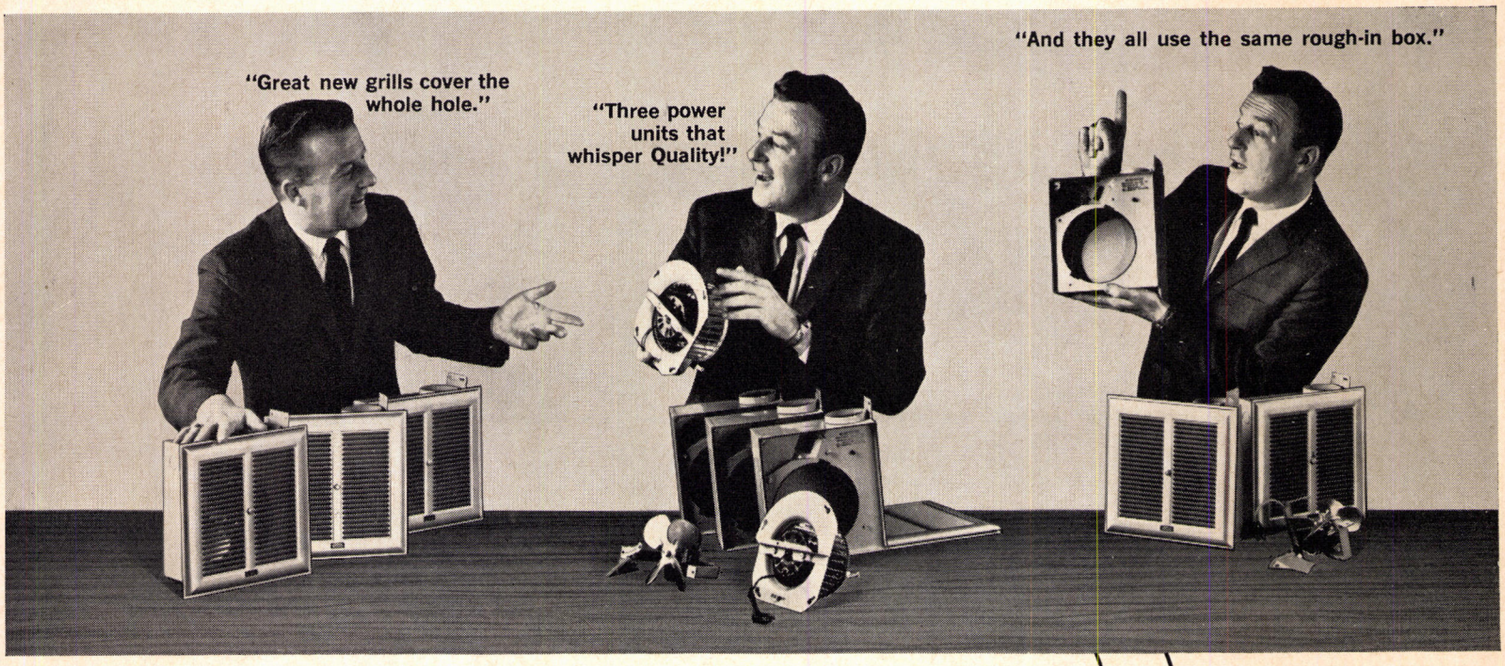
IOWA—BURLINGTON: Apartment, $2.4 million. Sponsor: Nanz Realty, Waukesha, Wis. CEDAR RAPIDS: Apartment, $800,000. Sponsor: A. L. Minkin Construction, Milwaukee, Wis. Plans: Glen Scholz, Milwaukee, Wis. DES MOINES: Apartment, $650,000. Sponsor: A. L. Minkin Construction, Milwaukee, Wis. Plans: Glen H. Scholz, Milwaukee, Wis. WEST DES MOINES: 35 houses, $525,000. Builder: Modern Homebuilders.

LOUISIANA—BATON ROUGE: Apartments, $500,000. Designer: Wilson W. Russell. METAIRIE: Apartment, $900,000. Sponsor: Cambridge Construction, New Orleans; Apartment, $700,000. Sponsor: Tonto Construction. Plans: Oliver Frantz; Apartments & houses, $850,000. Sponsor: Westbury Development. NEW ORLEANS: Apartment, $6 million. Sponsor: Lange W. Allen. Plans: Harold Pique; Apartment & swimming pool, $3.5 million. Sponsor: Brunswick Homes Inc. Architect: Henry G. Grimball.

MARYLAND—ANNAPOLIS: Garden apartments, $1.7 million. Architect: Cohen-Haft Assoc., Silver Spring. BALTIMORE: Garden apartments, $1 million. Architect: Zubkus-Zematis & Assoc., Lanham. DERWOOD: 172 houses, $6 million. Builder: Parkside Estates & Needwood Estates, Arlington, Va. GLENMONT: Garden apartments, $800,000. Sponsor: Glenmont Hill Assoc. Plans: Anthony Campitelli & Assoc., Silver Spring, Md. HAVRE DEGRACE: Apartments & townhouses, $620,000. Architect: Zubkus & Zematis Assoc., Lanham. LANGLEY PARK: Townhouses, $2,350,000. Sponsor: Bell Pre Inc., Silver Springs. Plans: Werner-Dyer Assoc., Washington, D.C. RIVERDALE: Apartment, $500,000. Sponsor: Chaiken Enterprises, Alexandria, Va. Plans: Horowitz & Seigel, Silver Spring.

MICHIGAN—GENESSEE TOWNSHIP: Apartments, $2.4 million. Sponsor: Dearing Builders, Flint. GRAND RAPIDS: Townhouses, $1 million. Sponsor: Dok Builders Realty Inc. LANSING: Apartment, $500,000. Designer: Robert Kopf, Detroit. Plans: W. Glasson Coombe, Detroit. MERIDIAN: Apartments, $2 million and apartments, $1.5 million.

Business continued on p. 41



Broan's Swingin' New Bath Fans!

Now there's a fan for every application . . . three side-discharge models for wall or ceiling installations: an 80 CFM model with 4-pole motor and squirrel cage impeller; a 60 CFM job with 2-pole motor and squirrel cage; and a 50 CFM version that uses the world's most proven motor . . . already installed in over a million bathrooms. Also a 6" vertical discharge model (not shown). On big jobs, you can order the rough-in boxes all at once, and order the power units later. What else? It's a Broan.

BROAN HAS 6 SWINGIN' NEW HOODS, TOO!

BROAN

Broan Manufacturing Comany, Dept. 4H, Hartford, Wisconsin
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V-I-N-Y-L

spells money!

Bird Solid Vinyl Siding and Gutter System help sell homes at a profit. They're distinctive. They're "maintenance free." They're promotable. Send for details.

BIRD & SON, inc., Box HH 46, East Walpole, Mass.

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Firm .....

Address .....City .....

County .....State .....Zip .....

(Bird products available East of the Rockies only)

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SHREVEPORT, LA.
PERTH AMBOY, N.J.

Bird & Son, inc. — The Classic Name in the Building Field

Sponsor: Eyde Bros., East Lansing. Plans: Frank & Stein, Lansing. SOUTHFIELD: Apartments, $2.5 million. Sponsor: Larry Schecter. Plans: Lorenz & Paski, Detroit. SOUTHGATE: 102 houses, $3 million. Builder: Macomb Corp., Detroit. WHITE LAKE: Apartments, $580,000. Sponsor: Builders of Michigan Inc., Union Lake. YPSILANTI: Apartments, $550,000. Sponsor: J. Keith Metty, Ann Arbor. Plans: Design Consultants, Detroit.

MINNESOTA—ALBERT LEA: Dormitory, $2 million. Sponsor: Mid Continent College Corp. Plans: Shaver & Co., Salina, Kan. EDINA: Apartments, $2 million. Sponsor: Garrison Construction, Minneapolis. Plans: Irwin Engler & Assoc., Minneapolis; Apartments, $12 million. Sponsor: Pauenhorst Corp., Minneapolis. Plans: Arthur Dickey, Minneapolis. LILLYDALE: Townhouses, $800,000. Architect: Hoff Heiberg. Minneapolis. NEW BRIGHTON: Apartment, $700,000. Sponsor: Wesley S. Robertson, Minneapolis. ROSEVILLE: Apartments, $700,000. Sponsor: Robert Construction, St. Paul. Plans: Associated Architects & Engineers, St. Paul. ST. PAUL: Townhouses, apartments, $600,000. Sponsor: Sheehy Construction. Plans: Albert G. Plagens. WEST ST. PAUL: Apartments, $1 million. Sponsor: William Strub Jr. & J. J. Fevel, St. Paul.

MISSOURI—CREVE COEUR: 64 houses, $1,250,000. Builder: Stiffelman Barken Inc. Plans: Stanley Glantz, University City. FLORISSANT: 200 houses, $3 million. Builder: c/o Vorhof Duenke Realty Co., St. Louis. Plans: Lawrence E. Spellman & Assoc., Hazelwood. HILLSBORO: 57 houses, $900,000. Builder: L. J. McNeary Realty & Construction, Affton. KIRKWOOD: 21 houses, $800,000. Sponsor: M K D Investment Corp., Glendale. ST. CHARLES: 40 houses, $750,000. Builder: B C M Development Inc. c/o Burkemper Construction; 800 houses, $13 million. Builder: Patty Homes Inc. ST. LOUIS COUNTY: 197 houses, $3 million. Builder: Ellsworth Breinban, Affton; 36 houses, $750,000. Builder: Conway Builders, Creve Coeur; 56 houses, $1,125,000. Builder: Kiem Construction. Plans: Charles O'Keefe, Clayton; Houses, $1 million. Builder: L. J. McNeary Realty, Affton. Plans: Dan Mullen, Overland; 400 houses, $6 million. Sponsor: Don Roth Development, Richmond Heights; 49 houses, $900,000. Builder: Siegfried Development, Creve Coeur. Plans: Stanley Glantz, University City; 47 houses, $950,000. Builder: Washington Development Co., Pine Lawn. Plans: Duncan Smith & Assoc., Kirkwood; 36 houses, $750,000. Builder: Waycliffe Development, Sappington.

NEW JERSEY—ATLANTIC CITY: 114 houses, $1.7 million. Builder: Redevelopment Corp. Plans: David Zuckerkandel, Philadelphia, Pa. BAYONNE: 50 two-family houses, $1.5 million. Builder: Branford Builders, Mountainside. Plans: Stephen J. & Richard T. Potter, Union. BLOOMINGDALE: Garden apartments, $1.7 million. Sponsor: Kroepfl Agency, Kinnelon. Plans: Gerald T. Heulitt, Pompton Lakes. CLIFTON: Garden apartments, $2.3 million. Sponsor: Factor Investement, Wayne. Plans: Neal M. Tanis; 63 houses, $1,250,000. Builder: Glen Cove Builders, Lebanon. EAST BRUNSWICK: Garden apartments, $1.5 million. Architect: Peter M. Grytois, Roselle. MORRISTOWN: 70 houses, $3 million. Builder: Frank H. Taylor, East Orange. Plans: Delnoce Whitney Goubert, New York City. PISCATAWAY: Garden apartments, $1.9 million. Sponsor: Abe Simon, Plainfield. Plans: James J. Macrae, Berkeley Heights. RARITAN: 118 houses, $1,250,000. Builder: Harold Bush, Stanton. RIDGEFIELD PARK: Garden apartments, $2 million. Sponsor: Goyem Industries, Wayne. Plans: C. J. Kordys.

NEW YORK—BABYLON: 32 houses, $500,000. Builder: Crescent Deer Park Corp., Deer Park. CAMILLUS: 27 houses, $800,000. Builder: S. John Biviano Real Estate. COMMACK: 106 houses, $1 million. Builder: Harris & Leroy Wichard, Kings Park. GOSHEN: 500 houses, $10 million. Builder: c/o Samuel J. Sonnett, Teaneck, N.J. HICKSVILLE: 40 houses, $600,000. Builder: Lake Grove Realty Corp., Freeport. HUNTINGTON STATION: 31 houses, $500,000. Builder: Lodge Estates, Huntington. LITTLE NECK: 100 houses, $1.5 million. Builder: Waterview Enterprises. Plans: Stanley J. Shaftel, Jamaica. NESCONSET: 50 houses, $1 million. Builder: Bezel Holding Corp., Oceanside. NEW YORK CITY: 24 houses, $600,000. Builder: Marose Homes, New York City.

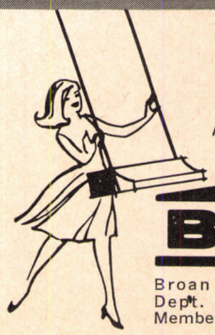
TENNESSEE—CHATTANOOGA: Apartment, $9 million. Sponsor: General Land Development Corp. KINGSPORT: Apartments, $1.5 million. Sponsor: Ridgefields Manor Apartments. KNOXVILLE: Apartment & swimming pool, $1,250,000. Sponsor: Herbert Smullian & David B. Liberman. Plans: David B. Liberman. MEMPHIS: Apartments, $750,000. Sponsor: The Belz Investment Co. Plans: Belz & McFarland; Apartment, $700,000. Sponsor: David Kotler. Plans: L. T. Hord; Apartments, $1 million. Sponsor: Howard Rubin. Plans: John Millard; Apartments & swimming pools, $1 million. Sponsor: E. B. Kimpel. Plans: Adams & Albin. NASHVILLE: Apartment, $800,000. Sponsor: Cherry Carpenter & W. L. Lovell. Plans: Marr & Holman; Apartments, $800,000. Sponsor: Thomas K. Sanders; Apartment, $780,000. Sponsor: Quality Homes. POWELL: 900 houses, $18 million. Builder: Lynn & Williams Wiegel.

TEXAS—CORPUS CHRISTI: Apartment, $850,000. Sponsor: T. S. Scibinski & B. B. Grossman. Plans: Walter Wisznia. EL PASO: 150 houses, $3 million. Builder: Willis Construction. HOUSTON: 90 houses, $1.8 million. Builder: Carriage Homes: Apartment, $785,000. Sponsor: Jernard Gross. Plans: Burdette Keeland & Assoc.; 40 houses, $800,000. Builder: Sam Marshall; 20 houses, $600,000. Builder: T. R. McHenery; 35 houses, $600,000. Builder: Precision Homes.

Leaders start on p. 59

Broan's Swingin' Combination Unit!

In one unit — complete 60 CFM ventilation, fast, 1500 watt bathroom heat and strong, yet glare-free, light. With the Broan 650 combination unit, you can heat, ventilate and light all at the same time, use any function alone, or any combination. The two-motor system is the reason . . . with separate motors for the fan-forced heater and for the vent fan. Why make three separate installations when one will do? Broan also offers two-way combination units: heater-fan, heater-light and fan-light. All guaranteed five years. What else? It's Broan.



BROAN HAS 6 SWINGIN' NEW HOODS, TOO!

BROAN

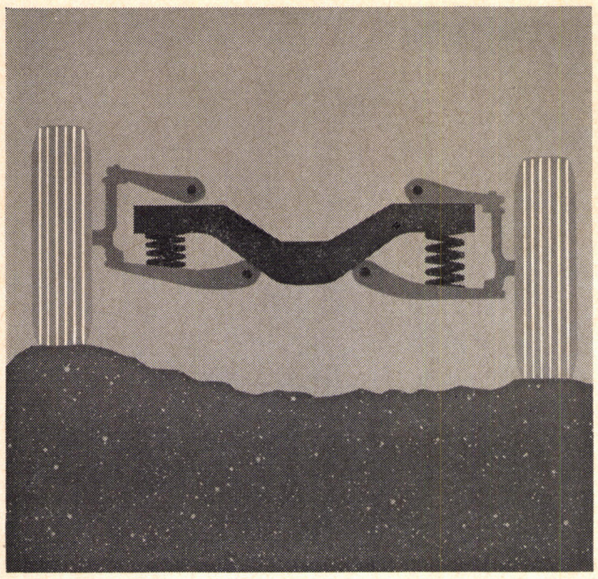
Broan Manufacturing Comany, Dept. 4H, Hartford, Wisconsin
Member Home Ventilating Institute

Circle 49 on Reader Service Card

Chevrolet pickups . . . America's No. 1 way to make hard work easier!

Fleetside pickups head the popularity parade for all-around good looks. They come with 6½- and 8-ft. bodies. Double-wall lower body side panels keep cargo dents from marring exterior appearance, and tough wood floor planking is joined by full-length steel skid strips.

Stepside pickups are offered with 6½-, 8- and 9-ft. bodies. All feature flat interior body walls and handy side steps between cab and rear fenders to simplify load handling. Same rugged planked floor construction with full-length steel skid strips as in Fleetside models.



Chevy independent front suspension has more miles of experience to back it up than any other design. Heavy I-beams are eliminated to give the wheels an independent, light-stepping action that smooths out bumps and ruts like none other. Try it; you'll forget you're in a truck!

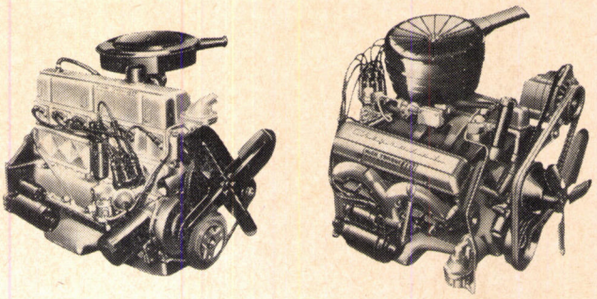
People have been buying up Chevy pickups at a faster clip than ever before. And with good reason, too!

Chevrolet has long been the nation's No. 1 choice for pickup value. But the current crop of Chevies offers more versatility, more job-proved working ability than any we've ever built. It's been no secret, of course, so people who are fussy about how they spend their money have been beating paths to Chevy dealerships all across the country.

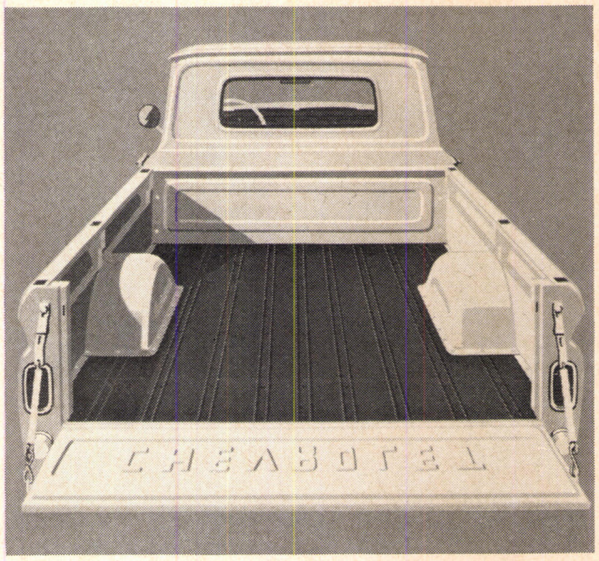
If you haven't followed one of these paths yet, you're missing out on more than you realize. There are dozens of quality features that make Chevy pickups something special: road-smoothing independent front suspension; Six or V8 engines; the most comfortable cab you can find; roomy bodies with durable planked flooring; rugged 4-wheel-drive chassis for extra off-road go. But for the full story, follow that well-worn path to your nearest Chevrolet dealer! . . . Chevrolet Division of General Motors, Detroit, Michigan.

CHEVROLET

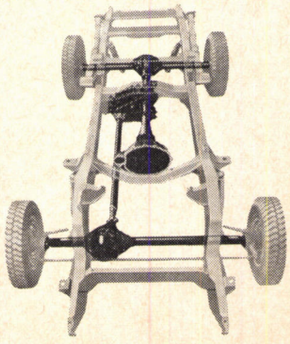
'66 WORKPOWER TRUCKS



Six or V8 engines are offered for all models. New 250 Six is standard; big 292 Six available to get extra go, yet keep 6-cylinder economy. For V8 sprightliness, choose either the 283 or the 327 V8—best performer ever offered in a Chevy pickup.

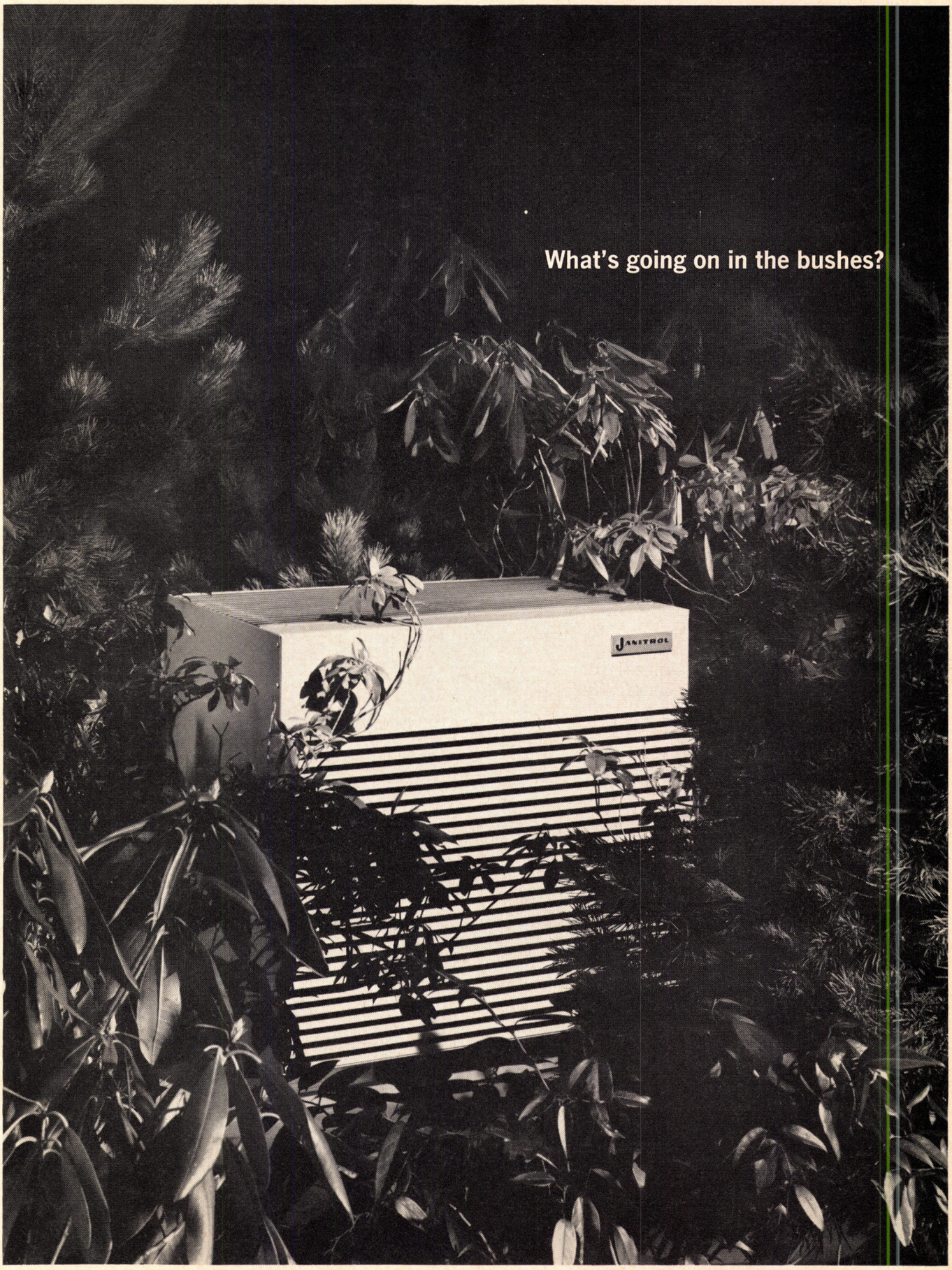


Pickup bodies are complete units with front walls separate from the cab to eliminate stress between cab and body. For hauling bulky cargo, stake racks or sideboards can be fitted into pockets in sides of body. Floors are of select wood planking to eliminate rust and minimize slipping when wet.

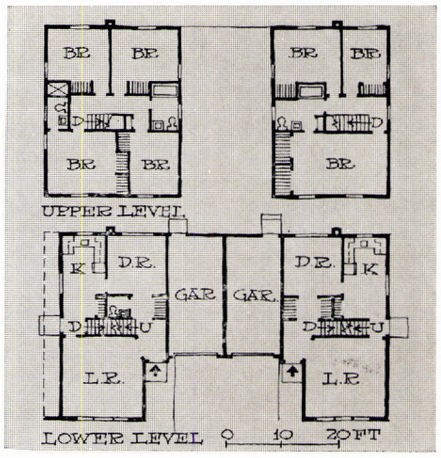


4-wheel-drive models are built extra rugged to take the abuses of rough terrain. Frames are extra heavy, and leaf-spring suspensions are used both front and rear. A 2-speed transfer case is controlled by a single lever to give easy shifting between 2-wheel and 4-wheel drive. Provision is made for a direct-drive power take-off to be mounted at the rear of the transfer case.

Circle 50 on Reader Service Card


What's going on in the bushes?
JANITROL

Action Photo Lab



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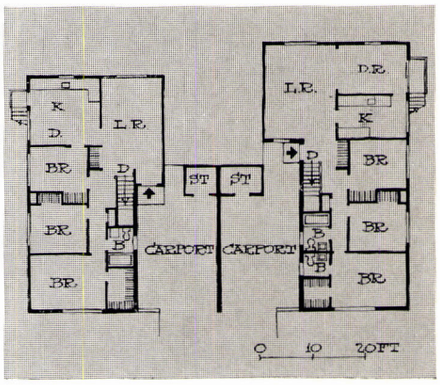


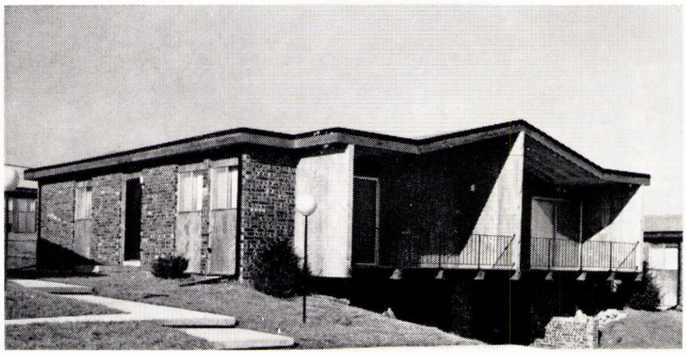
These duplexes were designed to sell in a traditional neighborhood . . .

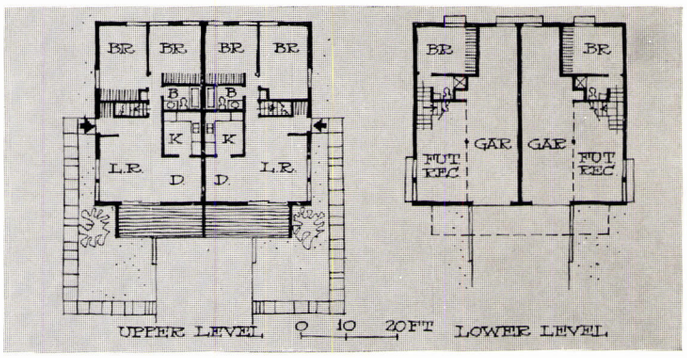
In fact, they sell competitively with single-family houses of similar design in the same project.

When Builder Leon Weiner opened the project, near Wilmington, Del., he offered only detached houses. After selling 50 of the 71 planned, he added the four duplex models shown here. Result: 55 duplexes were sold in eight months, and 101 more are planned. (Next step: the first of 496 apartment units.)

Because the duplexes use less land than detached houses (two units go on a 90′x 100′ lot), they can be sold at lower prices: $14,990 to $17,250. Sizes of the units run from 1,008 to 1,488 sq. ft. And each unit also includes a basement plus a garage or a carport with outdoor storage. So far the two-story models have outsold the one-story units. Architect Theodore Brandow planned each duplex so that there are no party walls and the garage or carport acts as a buffer between units as well as a shelter for the private entrance.

Tyner & Murphy





. . . and this duplex was designed to rent in a contemporary project

Sixty-four units like the two above—either finished or under construction—are all rented, and 56 more are planned. Builder John S. Kelly is building them on a section of his 35-acre project near Kansas City and is renting them for $135 to $150. Future units may include a third bedroom and bath in the basement (*see plan*) and will rent for $175.

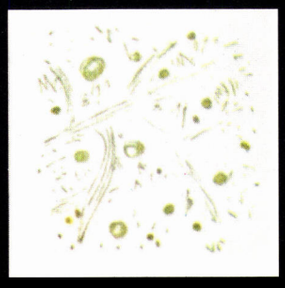
All of the plans are basically the same, but some have on-grade carports and patios instead of the basement garages and balconies shown in the hillside model above. There are ten more elevations, all contemporary, but with varying roof configurations. Designs are by Stephen Kelly. Units are 22′ wide, 27′ deep, and the lots for most pairs are 70′x140′.

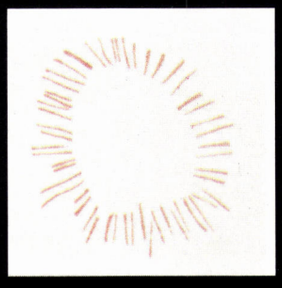
Leaders continued on p. 62

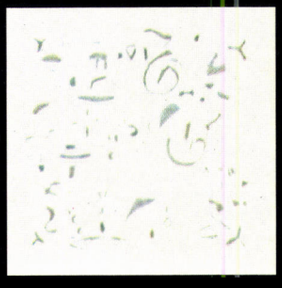
Circle 60 on Reader Service Card ➤

textured wall tile.

ROMAN COINS
41-801







..beautiful...exciting...inexpensive!

CHOOSE FROM 6 NEW AND ORIGINAL DESIGNS BY MAX SPIVAK, RENOWNED CERAMIC MURALIST

Just looking at these beautiful new Spivak Ceratile® Designs might easily give you the impression that they're expensive...but they're *NOT*. They fit even a modest building budget since they actually cost but a few cents more per sq. ft. than standard, solid color wall tiles.

Architects, decorators and builders who are looking for something interesting and different...something new and exciting in ceramic tile will find it in Spivak Ceratile Designs. Here in a modern new, textured tile is a touch of luxury without ostentation. The attractive designs, the interesting "engraved" texture and the soft muted colors of these new tiles combine to give an overall effect of tasteful elegance that will please the most discriminating client.

In creating these six new designs, Max Spivak, one of America's outstanding ceramic muralists, designed them primarily for their "total" effect in a wall. By setting them in a random pattern, as he recommends, repetitive monotony is not only avoided but the overall effect becomes even more exciting as the area size increases.

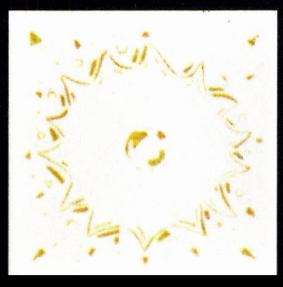
Spivak Ceratile Designs are ideal for use in motel, hotel, apartment and commercial lobbies, in bathrooms, powder rooms and kitchens. They can be used for light-duty floors as well as walls; for an entire room or for a single wall area with equal effectiveness.

Spivak Ceratile Designs are produced in 4¼" x 4¼" flat units in soft, muted colors that coordinate perfectly with solid colors of Suntile and the colored bathroom fixtures of most manufacturers.

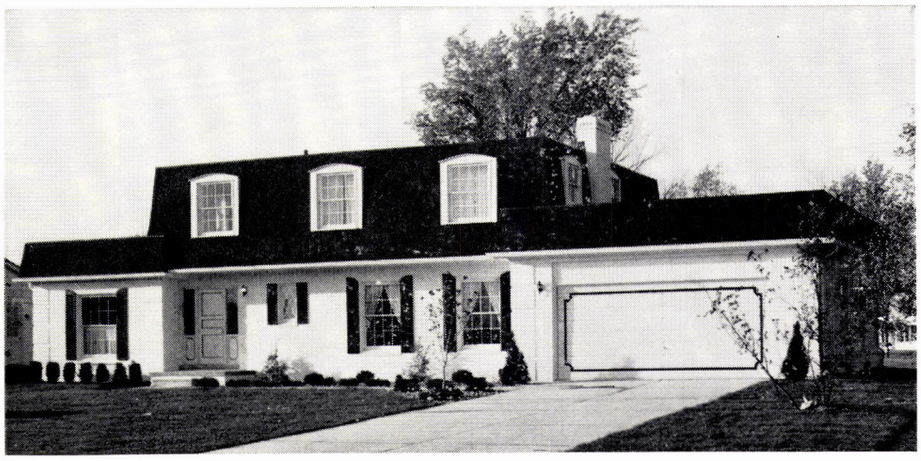
If you are an architect, decorator or builder and would like free sample tiles, write us on your professional or business letterhead. Address your request to The Cambridge Tile Mfg. Co., Cincinnati, Ohio 45215.

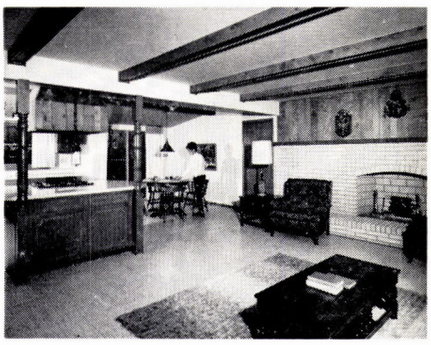
◀ **The CAMBRIDGE "ROMAN BATH" SUNKEN TUB,** shown at left, adds glamour to any bathroom. This one-piece, precast, reinforced concrete tub is delivered to the job ready for easy installation, plumbing connections and tiling. Only minor modifications in floor framing necessary. No drop ceilings required. Costs considerably less than conventional sunken tub. For details and complete information write Dept. RB66.

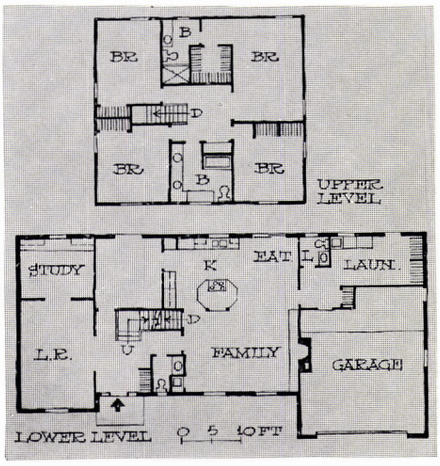
Spivak Ceratile Designs, Copyright 1964



SPIVAK CERATILE® DESIGNS by Cambridge Tile







A plan that centers on an informal living area . . .

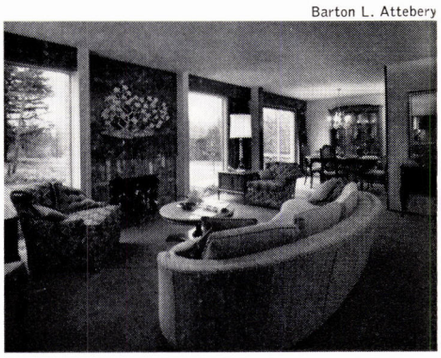
Despite its formal facade, this two-story house has been planned for casual family living. Its key feature is a wide-open 580-sq.-ft. area that combines the kitchen, an informal dining area and the family room. A beamed ceiling and a brick fireplace wall (*photo, right*) add to the casual character of this central space, which runs the full 27′ depth of the house.

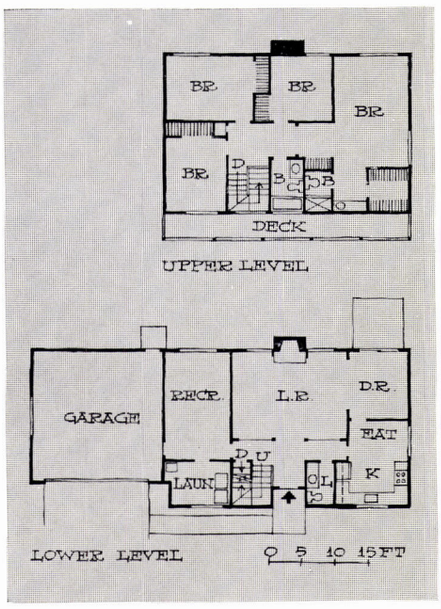
Designer Carl Gaiser put the formal living room at the opposite end of the house in its own one-story wing. The study behind the living room is protected from family-room noise by the formal dining area.

Thompson-Brown Realty Co. offers this four-bedroom, 2,900-sq.-ft. model for $42,000 on a 95′x100′ plot in its Detroit 285-home project. Builder: Rottman Construction Co.

Richards Studios

Barton L. Attebery





. . . and a plan designed for more formal living

Outwardly, this house is less formal looking than the model shown above, but inside the emphasis is on a large formal living area. The living room and dining room are combined into one 362-sq.-ft. area directly behind the central foyer, and this space is visually enlarged by floor-to-ceiling windows that make up most of the 28′ rear wall (*photo, right*).

There is also a smaller informal family room adjoining the laundry and garage, plus an informal dining area in the kitchen. Most traffic on the lower level flows through the slate-floored entrance hall.

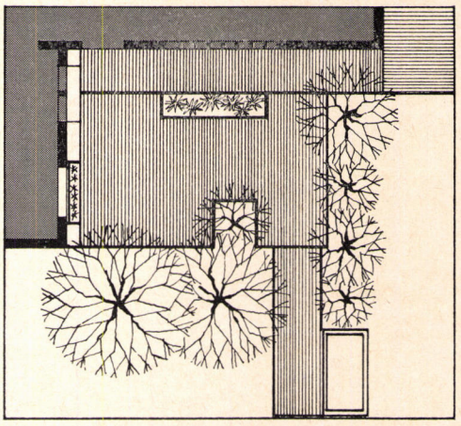
The second floor includes a large (370 sq. ft.) master bedroom suite, plus a full-width balcony reached through one of the other three bedrooms.

United Construction Corp. sells this copyrighted model for $24,950, including $4,000 in land costs for the ¼-acre lot, in Federal Way, Wash. Total living area of the house: 1,909 sq. ft., including the 264-sq.-ft. unfinished laundry.

Letters start on p. 72

They'll like the luxury and extra living area of a Western Wood patio.

You'll like its low in-place cost.



Here's a distinctive extra to set your model homes apart from the ordinary. A patio of Western Wood lets you offer a living room, play room and party room . . . all rolled into one.

Your prospects will like a Western Wood patio because it cuts down on lawn and landscaping chores (and expenses). They also know that upkeep is as easy as aiming a hose.

You'll like the patio's low in-place cost and easy installation. Western Wood is a familiar material to work with and requires no costly curing time. A patio of Western Wood also helps adapt a home to a difficult site.

Western Wood takes finishes and stains like a friend. It is resilient underfoot and doesn't hold puddles or heat.

Make a Western Wood patio your distinctive trademark—or a profitable option.

For our brand new Patios idea book in full color, clip the coupon and send today.

Western Wood Products Association
Dept. HH-466, Yeon Bldg., Portland, Ore. 97204
Please send me your new Patios Idea Book.

Name_____
Firm_____
Address_____
City_____ State_____ Zip_____

Circle 61 on Reader Service Card

When you go with Fedders—as builder Alfred Mayer does—you could wind up in romantic Vienna for 8 fun-filled days—absolutely free! Here, Mr. and Mrs. Mayer are getting an official sendoff from Austrian trade delegate Dr. Kurt Von Schuschnigg.

Mr. and Mrs. Alfred Mayer are going to Vienna as guests of Fedders. So can you.

Install only 45 Fedders Central Air Conditioning and Heating Systems and away you go!

It may even take fewer units to earn a free trip to Vienna for you and the missus. Your Fedders dealer will let you know how many. The number will depend on the sizes of the units and the area in which you are located. Mr. and Mrs. Mayer are going and only 45 Central Air Conditioning and Heating installations earned them the invitation.

For Mr. Mayer, the Vienna trip was just an extra added attraction. He chooses Fedders for more important reasons than that. He knows, as you do, that a central air conditioned home is a far more attractive home in terms of features and value. And one great way to equip your homes with this unique benefit, without pricing yourself out of today's rough 'n tough buyers market, is with Fedders.

And Mr. Mayer boasts about how fast those "SOLD" signs went up on his 2000 Fedders-equipped tract homes in the Florissant area of St. Louis County!

Fedders systems represent a breakthrough in air conditioning technology. Pre-assembled to save man hours and money when installed. Pre-wired, pre-charged and pre-tested at the factory. Designed to cut installation time, service problems.

They're available as split systems, with special pre-charged quick-connect tubing. Or as self-contained package systems. Designed for slab, attic, crawl space, garage or port. Free discharge or duct. Upflow, downflow, horizontal gas and oil furnaces. In capacities from 18,000 BTU to 57,000 BTU cooling, 24,000 BTU to 160,000 BTU heating.

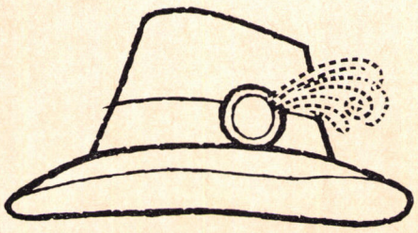
And more—Fedders helps you sell. With new ideas to move more homes and apartments. New ways to get prospects to your tracts and developments in a buying mood. Plus model home promotion aids.

And a powerful consumer ad barrage in widely circulated national publications.

Plus a little whipped cream on the cake—that trip to Vienna! Sound good to you? Why not find out more about it by mailing us the coupon. Your Fedders dealer is ready to get you started on your fun-filled vacation with a free Austrian Alpine Hat and a complete explanation.

FEDDERS Edison, New Jersey 08817
Major distribution and service points across the nation

Rush me my free Austrian Alpine Hat and details on how we can go to Vienna with Fedders. Sounds good!



Fedders Corporation
Edison, New Jersey 08817
Attn: Mr. Edwin P. Hart
Builder Sales Division, Dept. H-2

Name _____

Title _____

Firm Name _____

Address _____

City, State _____ Zip Code _____

Telephone Number _____

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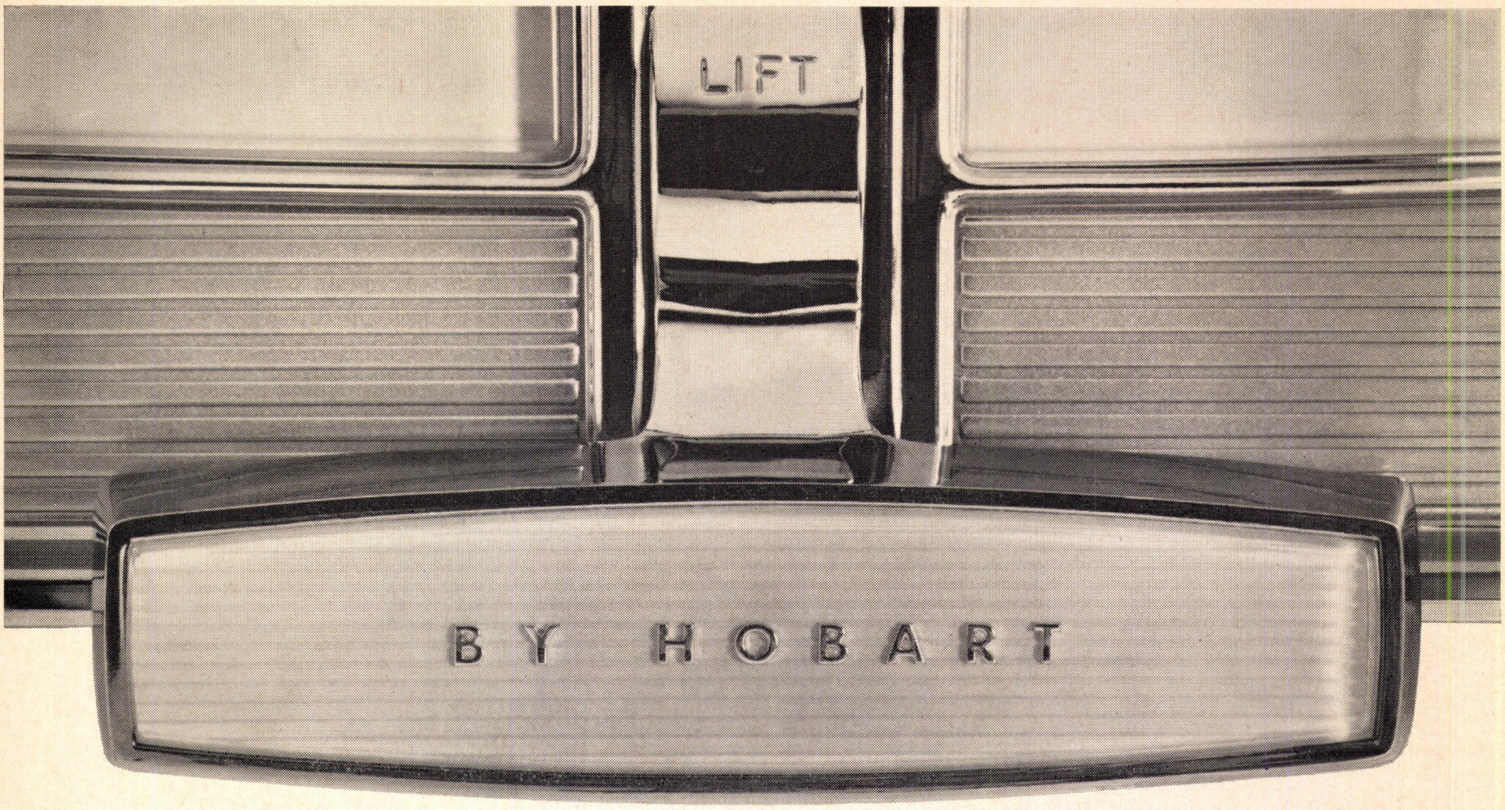


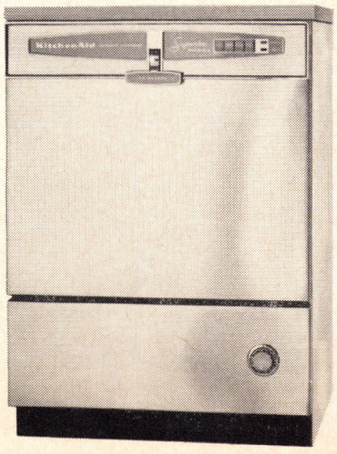
Here's an open-and-shut sales closer.

There's a strong sales story on the handle of every KitchenAid dishwasher: the Hobart name.

It shows your prospects that you install the best appliances. That price isn't your only consideration.

The Hobart name proves it. Remind your customers that Hobart has made commercial dishwashers for over 80 years. We're specialists who also make dishwashers for hotels, schools, restaurants and institutions.

Our service records prove our dishwashers work better and last longer with few call-backs.



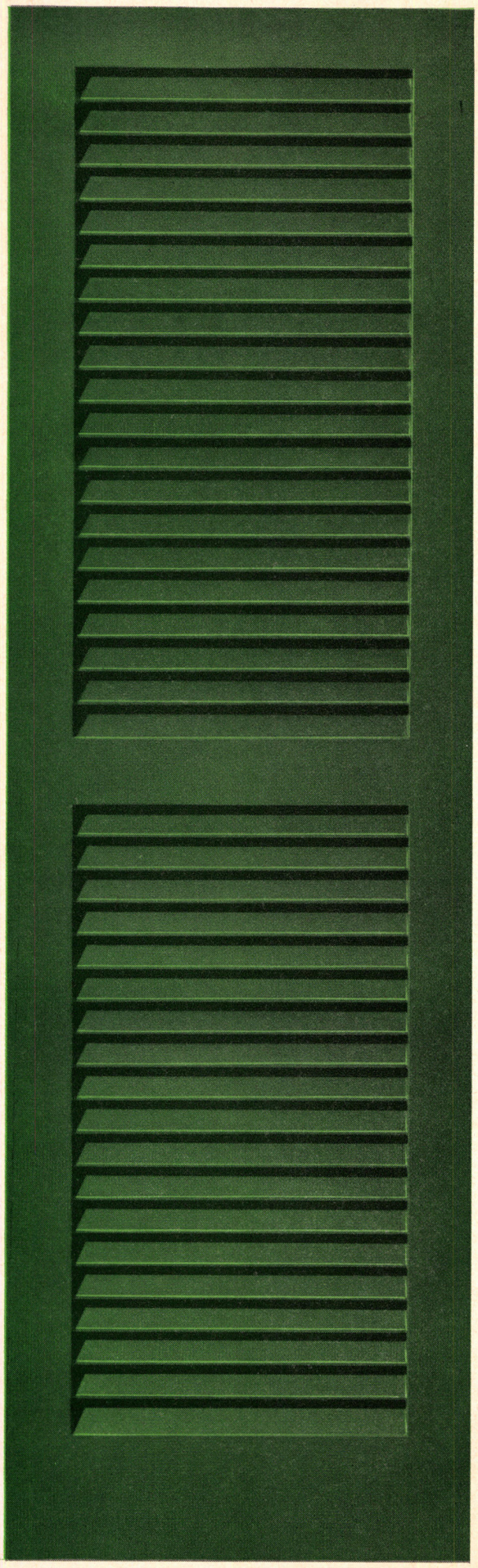
So install KitchenAid dishwashers and let our quality reputation help sell your houses. See your distributor for details, or write Dept. 6DS-4, KitchenAid Home Dishwasher Division, The Hobart Manufacturing Company, Troy, Ohio 45373.

And for a sales closer, remember our handle. It can help you close the sale as well as the dishwasher door.

KitchenAid®
Dishwashers

KitchenAid dishwashers are products of The Hobart Manufacturing Company.

Circle 63 on Reader Service Card



Wood? No, Nylon!

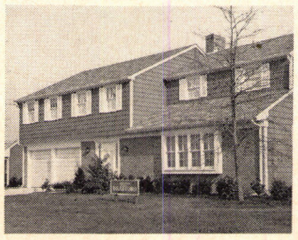
New Du Pont Nylon Shutters meet demand for low maintenance, pre-finished, high-quality materials...give you fast, easy installation

Made of tough Du Pont Nylon, these pre-finished shutters won't rot, crack, dent. Slats can't fall out.

They're easy to install. One man can put up a pair in 5 to 6 minutes on any siding or masonry. No special tools needed. All painting and puttying eliminated. And they have the look of fine woodwork.

The durable factory finish—in black, white, dark green—won't blister, chip, peel. Once they're installed, there's almost no upkeep. If homeowner ever wants to change colors, they can be easily repainted.

On your next job include the most practical shutters ever made—Du Pont Nylon Shutters. They'll save you money. For full details, contact Du Pont Building Products, Room N-2521, Wilmington, Del. 19898.



"We converted 100% to Du Pont Nylon Shutters," says Bob Scarborough, builder of 1,500 homes, selling up to $40,000 at Cherry Hill, N. J. "They cost a little more initially, but fast installation and elimination of callbacks quickly get that back for us."

DU PONT BUILDING PRODUCTS

Circle 64 on Reader Service Card

You can't help but notice . . .

Discriminating home owners immediately recognize the expert craftsmanship of Harris BondWood parquet. This superb performer is thick, solid hardwood all the way through . . . designed for adhesive installation over concrete or wood. And even after years of hard wear there's nothing to replace. BondWood is restored to original beauty with inexpensive refinishing. For flawless performance, always specify Harris BondWood . . . the original parquet introduced from Switzerland by Harris in 1954. Ideal for apartments, homes, gyms, auditoriums, classrooms and churches. Get all the facts about the versatile Harris line . . . mail the coupon below, today!

HARRIS MANUFACTURING COMPANY
DEPT. HH 46, JOHNSON CITY, TENN.
Please send me FREE FULL COLOR BROCHURE.

NAME _____
COMPANY _____
TITLE _____
STREET _____
CITY _____
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HARRIS FLOORING
Hardwood Flooring Since 1898
Parquet • Colonial Plank • Strip • Stairwork
BW

LETTERS

Second-house market

H&H: Our company has been active in the second-home market for two years, and the principals have been involved in this field for over 12 years. They have covered all of New Hampshire and Maine in developing vacation communities for leisure living. Your article on the second-home market [Feb.] impressed us very much as it touched on a great many of the same points that we feel are important, particularly convenient location and close access to recreational facilities.

RUTH BURZYNSKI, office manager
Sunrise Lake Lands Inc.
Middleton, N.H.

Profitable trade-ins

H&H: I read the article "Trade-ins can boost your volume—and your profits" [Feb.]. Maybe it works for Ted and Bill Bell—it sounds very convincing. The only question I have is how can they pay 6% for selling, 3% to 5% mortgage discount, spend money for fixing up, which sometimes costs 1% to 5%, and discount only 7% of the appraisal price? It sounds to me like losing 25¢ on every sale and making money on volume.

J. A. KALNS, builder
Sioux Falls, S. Dak.

Ted and Bill Bell of First Trade-In Corp. do all of their trading in the Chicago area, thus pay no premiums for conventional mortgages on traded houses. If premiums for FHA *or* VA *loans were anticipated, or if the age and condition of the house demanded renovation to make it saleable, this would be reflected in the appraisal of market value. Also, Reader Kalns overlooked the fee charged the new-house builder for making the trade. It is this fee—not what the Bells make on the trade-in resale—which is the basic source of their profit.*—ED.

H&H: We commend you on your fine article on trade-ins.

WILLIAM L. SHEON, president
Oakdale Realty Inc.
Woodland Hills, Calif.

Controversy

H&H: I have been enjoying your editorials, and I like the way you speak out on controversial issues. It's good for the industry—for all of us. Keep it up.

BEN HARVEY, director of public relations
Jim Walter Corp.
Tampa, Fla.

New service to readers: annual editorial index

HOUSE & HOME'S 1965 editorial index, an eight-page reference guide, is now available.

It includes a cross-referenced listing of all subjects covered last year by H&H—115 in all, from "acoustics" to "zoning"—plus a combined, chronological table of contents of major articles.

If you'd like a copy of the new index (there's no charge), write to: Reader Service, House & Home, 330 West 42 Street, New York, N.Y. 10036.

Union shops

H&H: Your article about running union shops profitably [Feb.] was timely, factual and perceptive. I believe it will dispel some of the fears that builders have when unions attempt to organize an area. In our area we find that union conditions generally produce a better class of craftsmen, uniformity of working conditions and responsible leadership. Union conditions also provide a pay scale that enables the workers to enjoy the fruits of their labor—in many cases they are able to buy the product they build.

GEORGE A. FRANK, executive vice president
Builders Institute of Westchester
& Putnam Counties
White Plains, N.Y.

H&H: I found this article very interesting, and I am forwarding copies to the presidents of our affiliated International Unions.

C. J. HAGGERTY, president
Building & Construction Trades Dept.
AFL-CIO
Washington, D.C.

Labor editorial

H&H: I read your editorial on labor [Feb.] and was most impressed with your presentation. It was well done and I am certainly happy to see that some industry leaders are willing to speak out on this issue.

PAUL C. PETERSEN, builder
Petersen & Moretti
San Mateo, Calif.

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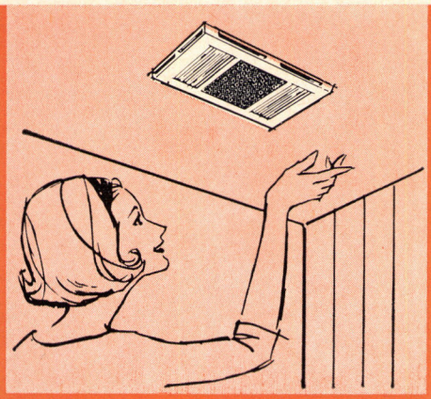
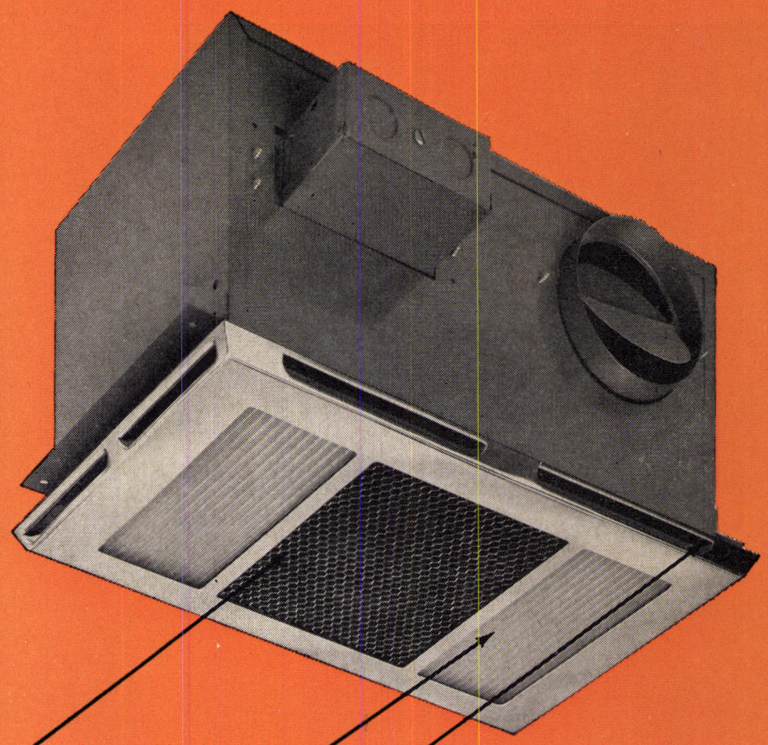
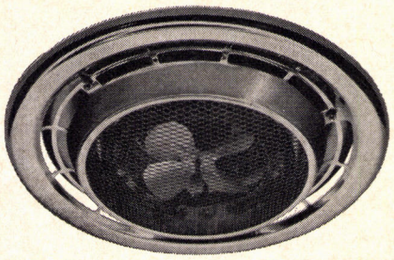


New Hunter TRIO Bathroom Unit



HEATS, LIGHTS, VENTILATES

One easy installation does all three



NEW HEATRING bathroom ceiling heater

Surface mounted. Projects only 2″ into room. Puts out 4300 BTU/H. Quiet, rubber-mounted fan pulls in cold air through outer ring and discharges warm air through center grille. Takes mere minutes to install. Heating element is nickle chrome wire mounted under anodized aluminum reflector. Attractive chrome grille is 14½″ in diameter.

Hunter makes a complete line of electric heating equipment, as well as residential, commercial and industrial fans.

Stainless steel grille frame is flush-mounted in ceiling. Trio provides fast, even heat to 4500 BTU/H through aluminum honeycomb center heating grille. Quiet, electrically reversible fan ventilates through 4″ duct equipped with built-in back-draft damper. Wall switch and plate included. Hunter Bathroom Wall Heater (not shown) has modern grille 18″ high with polished aluminum finish, built-in thermostat and 5120 BTU/H capacity.

Hunter Electric Heat *It's Matchless!*

MAIL TODAY FOR DATA
Hunter Division, Robbins & Myers, Inc.
2515 Frisco Ave., Memphis, Tenn. 38114
Please send full information on
Hunter bathroom heaters.

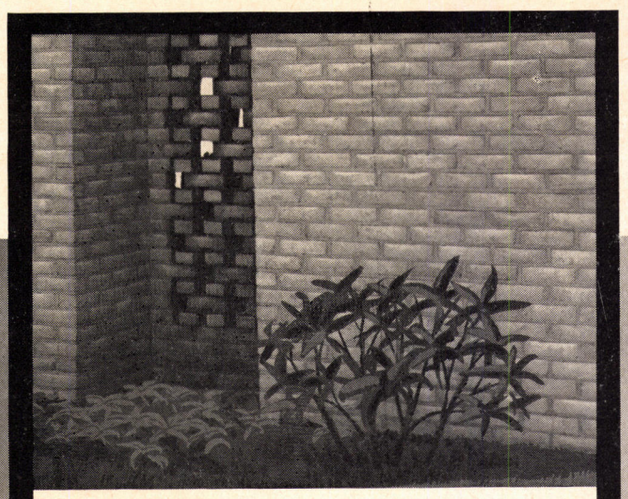
Name_____

Company_____

Address_____

_____

Circle 66 on Reader Service Card



Eye-catching and practical —4-inch brick bearing wall

NAHB's Research House VI near Washington, D.C., is a compendium of the latest and best ideas for making homes better, *and more salable*. Its most prominent exterior and interior material is brick.

The front elevation of the Research House is dominated by unusual, four-inch-thick loadbearing brick wall enclosing the carport. It gives approach to house distinction and elegance.

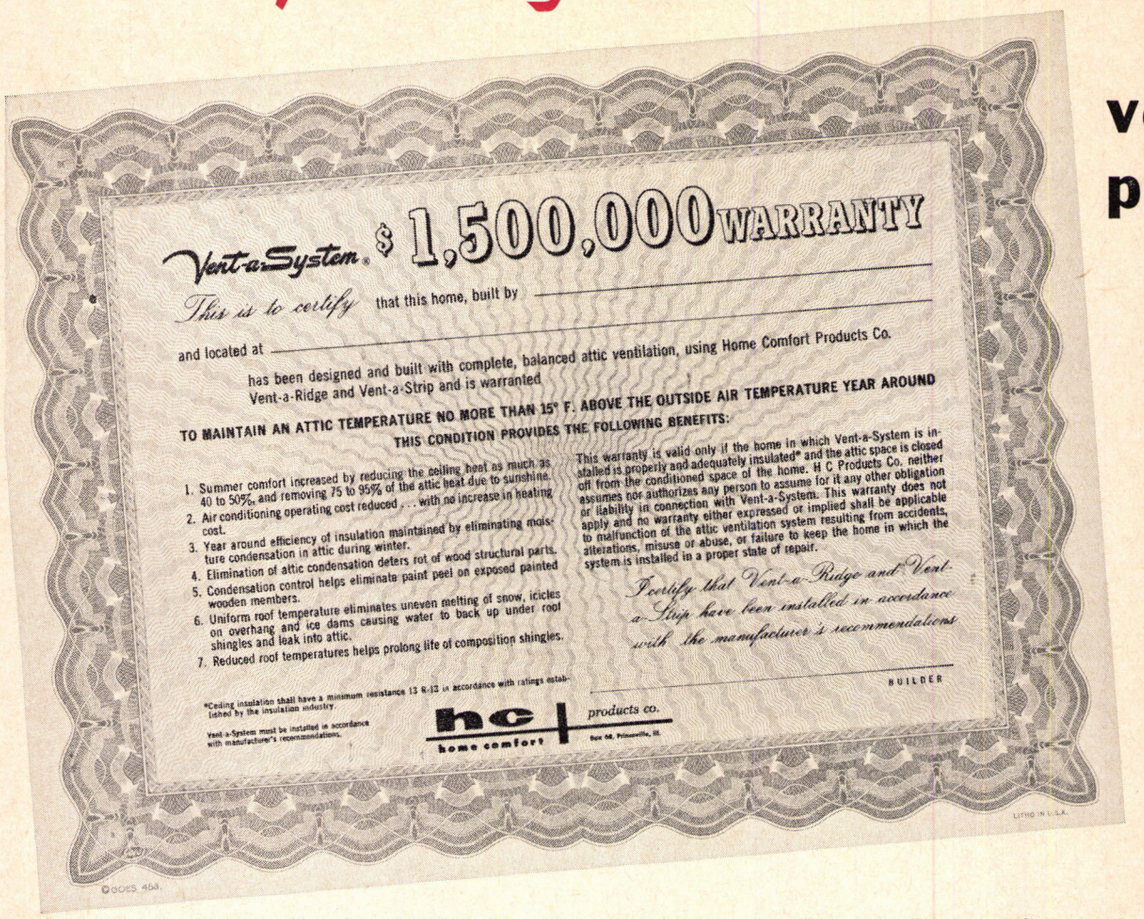
Designed as series of "U" shapes, wall provides utility, economy, and great visual interest. Wall supports roof; interiors of "U's" furnish handy storage space inside carport. Portions of wall are pierced-brick screens whose openings and projecting header courses create dramatic beauty and interest. A single wythe of brick was used in this extremely simple wall which needs no interior or exterior finish: Economy, in both materials and construction, is the result.

Other unusual brick usages: Reinforced Brick Masonry (RBM) retaining wall across front of house on lower level. Wall is exposed on interior; above fireplace in living room a decorative pattern is created by projecting brick four inches from wall and then alternately projecting and recessing header and stretcher courses one inch. Brick wall flows out from both sides of fireplace, unifying living room, atrium, den, and patio. A 20-inch-wide brick bench is cantilevered from wall.

These are unusual brick usages, yet they are easy to plan, simple to execute, and inexpensive to build. Any home builder can use brick in the same ways, or adapt these ideas to his own needs. Write for drawings of these details in NAHB Research House VI.

scpi Structural Clay Products Institute
1520 18th St., N.W., Washington, D.C.

Vent-a-System... must prevent every attic ventilation problem... or we'll remove it entirely at our expense!



Vent-a-System $1,500,000 WARRANTY

This is to certify that this home, built by _____

and located at _____

has been designed and built with complete, balanced attic ventilation, using Home Comfort Products Co. Vent-a-Ridge and Vent-a-Strip and is warranted

TO MAINTAIN AN ATTIC TEMPERATURE NO MORE THAN 15° F. ABOVE THE OUTSIDE AIR TEMPERATURE YEAR AROUND

THIS CONDITION PROVIDES THE FOLLOWING BENEFITS:

1. Summer comfort increased by reducing the ceiling heat as much as 40 to 50%, and removing 75 to 95% of the attic heat due to sunshine.
2. Air conditioning operating cost reduced . . . with no increase in heating cost.
3. Year around efficiency of insulation maintained by eliminating moisture condensation in attic during winter.
4. Elimination of attic condensation deters rot of wood structural parts.
5. Condensation control helps eliminate paint peel on exposed painted wooden members.
6. Uniform roof temperature eliminates uneven melting of snow, icicles on overhang and ice dams causing water to back up under roof shingles and leak into attic.
7. Reduced roof temperatures helps prolong life of composition shingles.

This warranty is valid only if the home in which Vent-a-System is installed is properly and adequately insulated* and the attic space is closed off from the conditioned space of the home. H C Products Co. neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with Vent-a-System. This warranty does not apply and no warranty either expressed or implied shall be applicable to malfunction of the attic ventilation system resulting from accidents, alterations, misuse or abuse, or failure to keep the home in which the system is installed in a proper state of repair.

I certify that Vent-a-Ridge and Vent-a-Strip have been installed in accordance with the manufacturer's recommendations

BUILDER

*Ceiling insulation shall have a minimum resistance 13 R-13 in accordance with ratings established by the insulation industry.

Vent-a-System must be installed in accordance with manufacturer's recommendations.

hc home comfort | products co. Box 68, Princeville, Ill.

LITHO IN U.S.A.

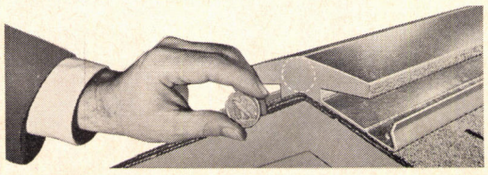
©OOES 4bd.

Any problem that can be traced to faulty attic ventilation is prevented when you install Vent-a-System. That's a strong statement . . . but H C Products Co. (a corporation with net assests over $1,500,000) stands behind it with a Warranty builders can issue to every home buyer. After a solid record of Vent-a-System SUCCESS in hundreds of thousands of homes, we make this offer: If Vent-a-System doesn't maintain an attic temperature within 15°F. of outside air temperature . . . if problems can be traced to attic ventilation . . . **H C Products Co. will take Vent-a-System back, return the purchase price and pay the labor costs for removing it!**

Herb Hinrichs

HOW CAN "MR. VENTILATION" HELP YOU?

No company in the world knows more about attic ventilation than H C Products Co.—developer of Vent-a-System after exhaustive tests on scores of homes including a specially-built research residence. Our Chief Ventilation Engineer Herb Hinrichs is available to analyze specific ventilation problems you may have and advise solutions—at no cost to you. Ask your H C Products sales representative about this unique service.



Vent-a-System... half dollar high on millions of dollars of fine homes

because warm air rises . . .
Vent-a-Ridge® at the top . . .
Vent-a-Strip® at the bottom . . .
keep air flowing continuously . . . evenly . . .
the entire length of the attic!

Send coupon below for your free copy of the outstanding attic ventilation manual written by Herb Hinrichs, "Ventilation Fact & Fallacy."

HH

hc *products co.*

P. O. BOX 68, PRINCEVILLE, ILLINOIS 61559
PHONE 309 385-4323

Please send Vent-a-System information including literature, prices, and free manual "Ventilation Fact and Fallacy".

Name _____

Address _____

Firm _____

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STATES GYPSUM

Electric heating comes of age with THERMALUX. It gives heat so gentle...all you feel is comfort...because it radiates heat just like the sun. You don't see it because it's built right into the ceiling: a large area wireless resistor is an integral part of each gypsum board panel. Architects like THERMALUX because it provides new freedom in design without ductwork, furnaces, or registers. Builders like it because it's easy to install. Homeowners like it because it provides the ultimate in comfort with reasonable cost and carefree maintenance. With THERMALUX, electric heating is now practical and economical...an achievement of United States Gypsum, where research is backed with construction know-how.

THERMALUX Electric Heat...
another breakthrough by

UNITED STATES GYPSUM
Chicago, Illinois

For your copy of the colorful, informative brochure, No. H-5, on THERMALUX Electric Heat, write Dept. HH-63, 101 S. Wacker Dr., Chicago, Ill. 60606.

Circle 68 on Reader Service Card

These five builders tell how they cashed in on Honeywell Electronic Air Cleaners

"Control panel is a talking point"

Mr. Richard H. Wieland, Builder of Brookwood, Prince Georges County, Maryland

"We featured the Honeywell Electronic Air Cleaner in the 1963 Parade of Homes. Now, it goes in about half of our homes. Most people do not know about electronic air cleaning, but they do know about air pollution, and they react favorably when we go into a little sales pitch.

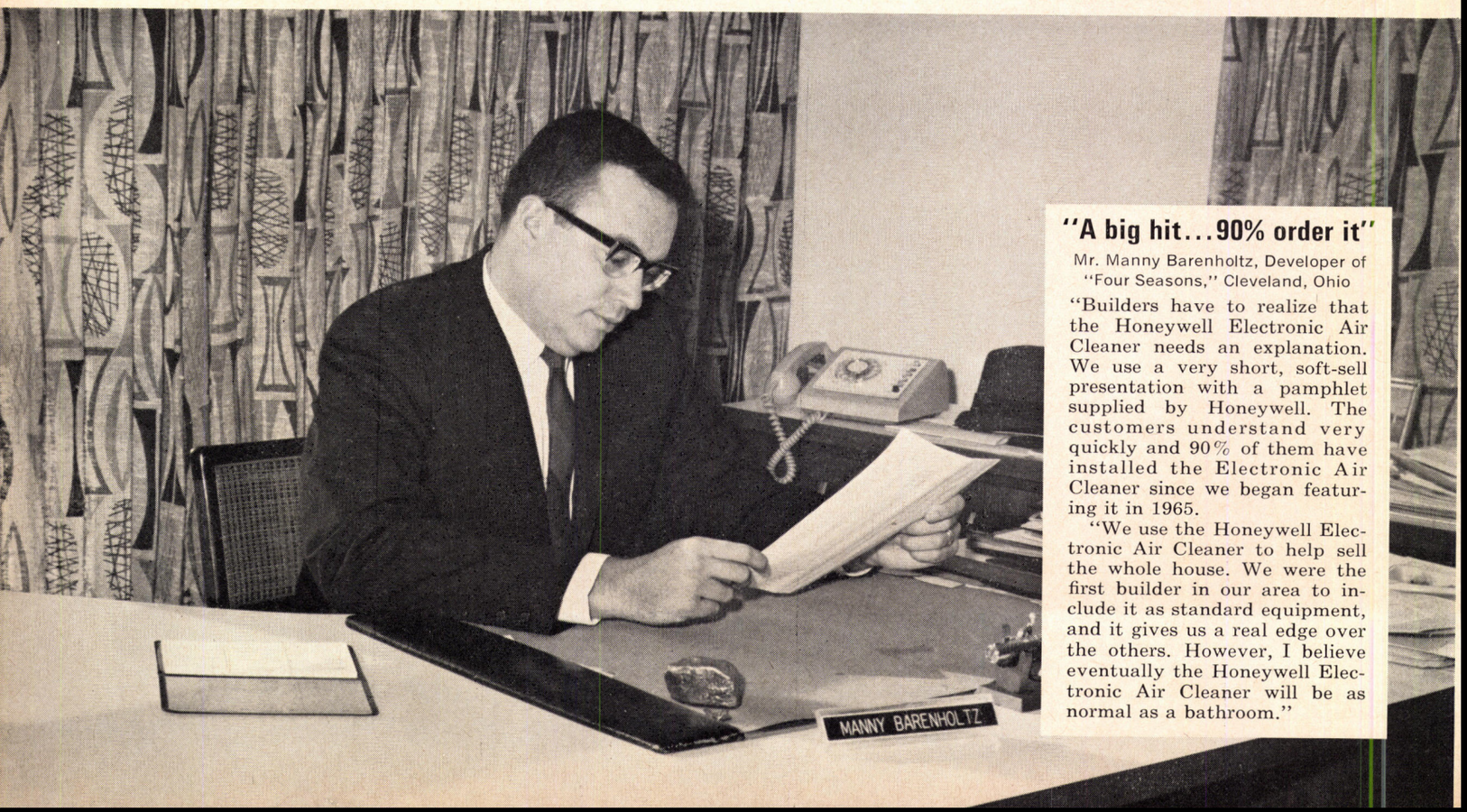
"We sell the air cleaner as part of Comfort Conditioning along with a humidifier and air conditioning. We don't intend to make a big profit on the air cleaner, but feel it is important because it helps make our homes more saleable. We believe electronic air cleaning is on the increase and will feature it again in the 1966 Parade of Homes."

"We give the best, Electronic Air Cleaner is standard"

Mr. Lee Rosenberg, Panitz & Co., Inc. Builder of Rumsey Island, Joppa, Maryland

"Rumsey Island, along with our other development, Joppa Town, is a planned community where every home has direct access to Chesapeake Bay through a series of canals. Our people are the type who like to come home and jump into their boats. Minimal housekeeping is important and the Electronic Air Cleaner is a strong feature for our homes.

"We don't believe in extras. All homes have a system that includes air conditioning and electronic air cleaning, a humidification system, and a central vacuum cleaning system. Our homes are more saleable because they have a sophistication that others don't offer. We feel that all homes should get to this point."



"A big hit...90% order it"

Mr. Manny Barenholtz, Developer of "Four Seasons," Cleveland, Ohio

"Builders have to realize that the Honeywell Electronic Air Cleaner needs an explanation. We use a very short, soft-sell presentation with a pamphlet supplied by Honeywell. The customers understand very quickly and 90% of them have installed the Electronic Air Cleaner since we began featuring it in 1965.

"We use the Honeywell Electronic Air Cleaner to help sell the whole house. We were the first builder in our area to include it as standard equipment, and it gives us a real edge over the others. However, I believe eventually the Honeywell Electronic Air Cleaner will be as normal as a bathroom."

"Our house of the future includes clean air"

Mr. Theodore H. Bentley, Builder of Hollywood Highlands, Hollywood, California, and creator of the "SteelStone"® concept in tract housing

"Our house is the first really new house in Southern California since the adobe. My Associate, Chester Groves, and I use the 'Steel-and-Stone' method of construction like high rise apartments for a home that is fireproof; earthquake resistant; rot, vermin and termite proof; and should last 100 years. Our house will not become obsolete. Naturally, air conditioning is standard, but why cool dirty air? This is the smog capital of the world. I won't add frivolities, but the Honeywell Electronic Air Cleaner is functional, as well as a status symbol. It's all part of the 'home-of-the-future' concept and it really sells homes."

"Put it in a Comfort Conditioning Package"

Mr. Marco Santi, President of Marco and Soave Co., Warren, Michigan

"We like to compare the Electronic Air Cleaner to power steering in an automobile. People really appreciate it when they have it, but they wouldn't pay to have it installed after they own the car. We make the Honeywell Electronic Air Cleaner part of a Comfort Conditioning package that includes Thermopane glass, 3″ insulation, marble window sills and an Electronic Air Cleaner.

"It's all or nothing and most buyers take the whole package. They respond to appeals for health and cleanliness. They easily understand electronic air cleaning. It helps sell our houses without over pricing them."

Honeywell Electronic Air Cleaner removes 95%* of the dust, dirt and pollen passing through it

The Honeywell Electronic Air Cleaner fits in the return air duct of any forced air heating-cooling system and traps up to 19 times as many particles as ordinary mechanical filters.

Only the large airborne particles can be seen, but the invisible particles do most of the real damage. They can irritate allergies, soil windows and drapes, and leave a dingy haze behind mirrors and pictures.

The Honeywell unit traps particles so tiny that it would take about 7,000 of them to stretch across this (·) dot!

In a new home, the Honeywell Electronic Air Cleaner may be included in the mortgage for under $2.00 per month.

For more complete information and literature, write Honeywell, Dept. HH4-423, Minneapolis, Minn. 55408.

*As measured by the National Bureau of Standards Dust Spot Method.

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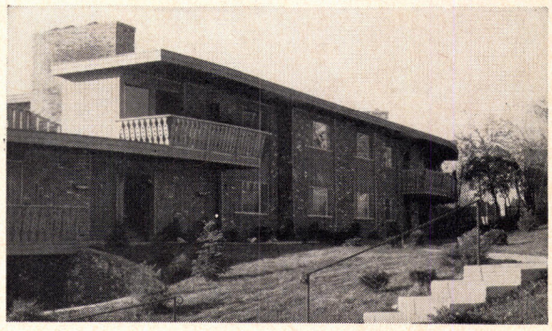
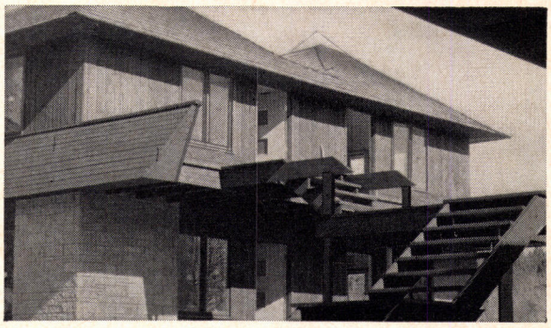
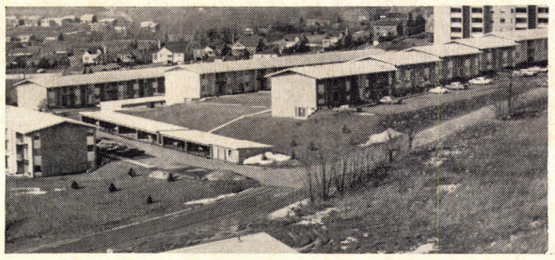




Builder WILLIAM C. KILPATRICK, for his 105-acre LAKE HILLS VILLAGE project at Wolcott, Conn., specified Homasote "4-Way" Floor Decking throughout. Contoured into the slopes of a hill-and-lake setting, this picturesque community provides residents with a long list of other extras for gracious living. *Below right:* Another Kilpatrick project, at Woodbury, Conn., is the 702-unit WILLOW WOODS Apartments on 43-acres. This self-contained country club residence arrangement includes Homasote Resilient Underlayment and 5/8" Insulation Sheathing in its construction.

Architects:
The Brothers Paris, A.I.A., Albany, N.Y.



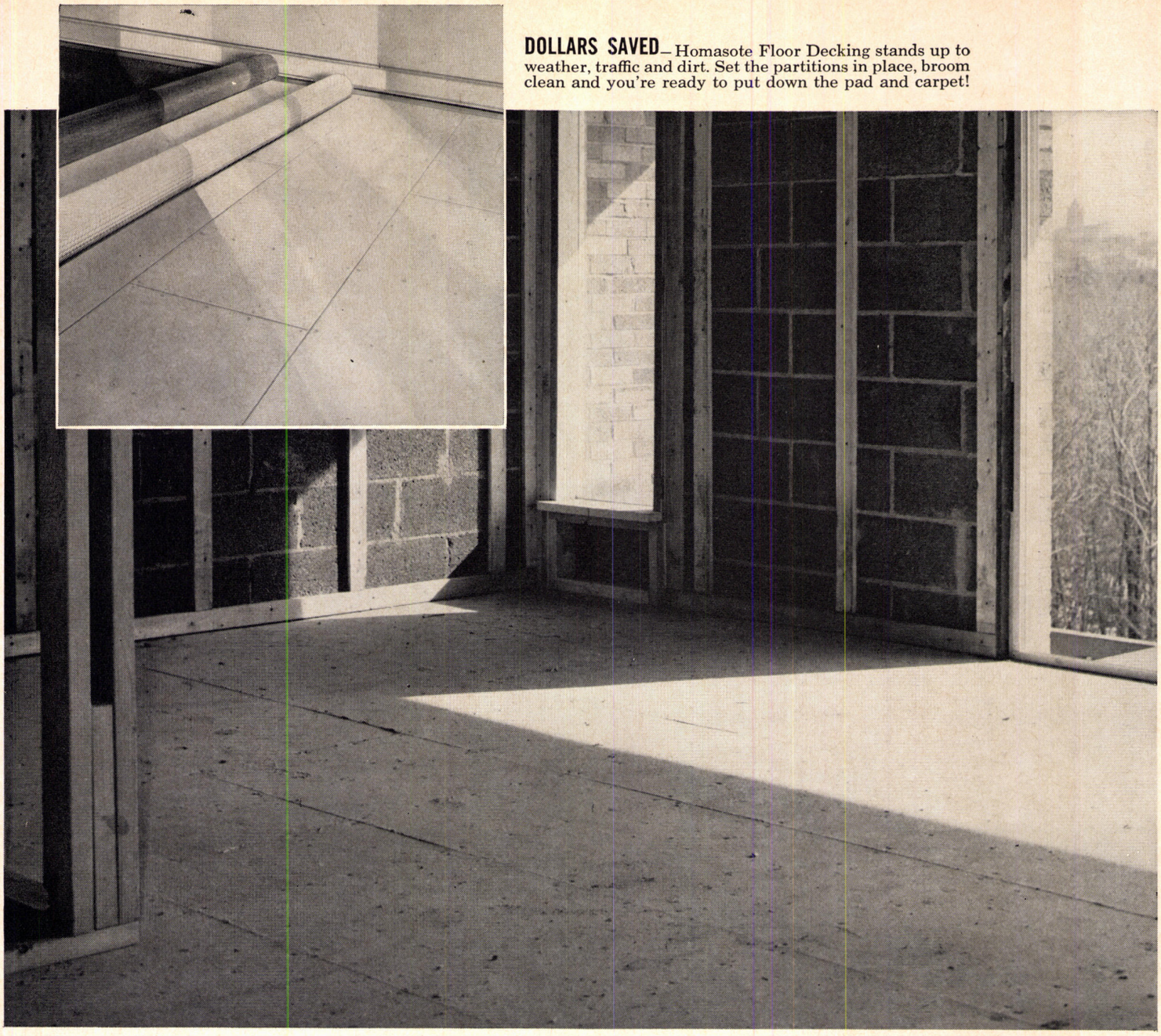
Builder R. GORDON MATTHEWS specified Homasote "4-Way" Floor Decking for his CHATHAM WEST and CHATHAM PARK projects in Pittsburgh. Both offer sound conditioned and air conditioned apartments along with swimming pools and year-round recreation centers.

Five minutes from downtown Pittsburgh, CHATHAM WEST features 1, 2 and 3-bedroom garden units at moderate rentals. Site is attractively landscaped and stands of oaks provide privacy and shade.

Bottom left: In suburban Pittsburgh, CHATHAM PARK is a combination of garden and elevator high-rise apartments with private balconies and terraces.

Architects:
Collins & Kronstadt, Silver Spring, Md.

6-023



DOLLARS SAVED— Homasote Floor Decking stands up to weather, traffic and dirt. Set the partitions in place, broom clean and you're ready to put down the pad and carpet!

To finish the floor—all you add is carpet and pad!

Floors are finished faster when Homasote "4-Way" Floor Decking is specified. And, in one and the same operation, you save dollars with a floor that is weatherproof, termite-protected and *sound conditioned*. No additional underlayment or fitting is needed. Once partitions are set in place over the Homasote Decking you are ready for carpet and pad.

No wonder more and more dollar-wise builders and owners are specifying Homasote Floor Decking Panels for garden apartments, motels and other low-rise construction—as well as for fine homes!

FREE Technical Bulletin describes the savings to be made with 1 11/32″ thick, 2′x8′ Homasote Floor Deck panels. Nailed directly to floor joists, these T&G panels deliver an INR +9 and an STC 47 with 40 oz. pad and carpet and ceiling of 5/8″ gypsum on resilient channels. Tested according to ISO-R-140 and FHA #750. Full details available by writing Dept. D-2

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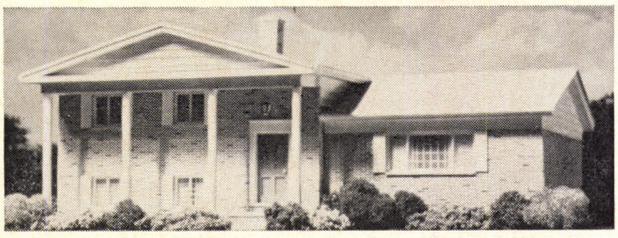
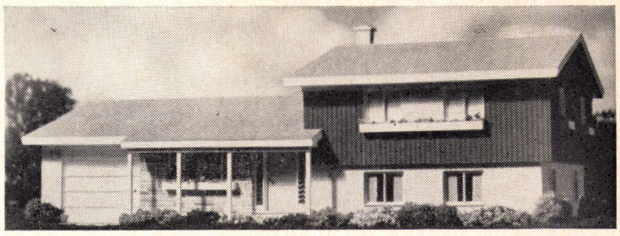


The Ridley Park in Georgian Colonial—1873 sq. ft.



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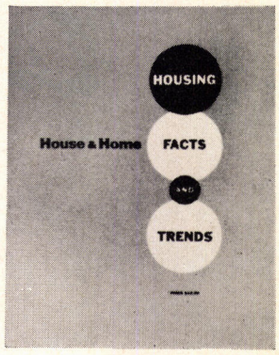

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EDITORIAL

Yea, they are greedy dogs which can never have enough, and they are shepherds that cannot understand: they all look to their own way, every one for his gain, from his quarter.

Isaiah 56:11

Isaiah's admonishments to the children of Israel might well be applied to parts of the lumber industry today. Battles over segments of the market, span tables, codes, grademarking, stress rating, species, sizes, wet and dry lumber, and good guys and bad guys have so divided the industry that the Commerce Dept. has pulled the rug from under the whole shebang. Says Commerce: come September 15 we're going to withdraw your softwood standard Simplified Practice Recommendation 16-53—unless an acceptable standard is developed prior to that date.

Commerce's reason for the action is a good one. Most knowledgeable professionals in both the lumber industry and light-construction have known for some years that SPR 16-53 was obsolete and technically inadequate. Despite this fact, FHA still refuses to accept lumber produced to an alternate standard of greater quality.

The lumber industry's efforts to change SPR 16-53 to a meaningful standard began in 1959, but as various interests turned the effort into a battle, everybody began noticing things. For example, a grade mark that means something on one piece of lumber may be counterfeit on another. Under some new rules, shipments of entire species can be as much as 10% below their assigned strength values.

So last year, shortly after he took office, Secretary of Commerce John T. Connor told lumbermen that unless they could resolve their differences and come up with a lumber standard that meant something, his department would withdraw its support of existing standards.

Secretary Connor may have been asking the impossible because of Commerce's own procedural roadblocks. There are some 30,000 producing units in the lumber industry, and Commerce polls some 16,000 producers and users and requires virtual unanimity in response to accept a standard. We could never elect a President that way. What Commerce must do is to embrace slightly more realistic procedures if it ever wants to get a meaningful standard.

At Commerce's insistence, the lumber industry's American Lumber Standards Committee did speed up their deliberations. But apparently they had their hearing aids turned up only half way, because they didn't hear Secretary Connor say that Commerce expected some real performance standards and quality control of lumber—controls with real teeth. ALSC is supposed to be a quality control organization, but in actual fact it doesn't control anything in the industry.

Now the lumber industry is faced with a real crisis, and most people in government, building and the lumber industry itself know that lumbermen must do four things:

1. Create firm and accepted standards that relate size to moisture content of lumber.
2. Assign fair and accurate stress values to each grade of each species. This work should be done or reviewed and approved by an impartial agency.
3. Establish a nationwide standard for certified grading agencies. Each regional agency should meet and enforce the same procedures.
4. Set up an authoritative body for decertifying agencies, mills or anyone in the lumber industry who does not play by the new rules. Such an agency should have the right to levy penalties and make them stick. This is not to say that there are no real quality-control programs in the industry now. There are: The American Plywood Assn. has one, as does the American Wood Preservers Institute and the American Institute of Timber Construction and the Western Wood Products Assn. And now The West Coast Lumber Inspection Bureau and WWPA, under encouragement of the FHA, have devised and submitted to FHA a quality control program for machine stress-rated lumber.

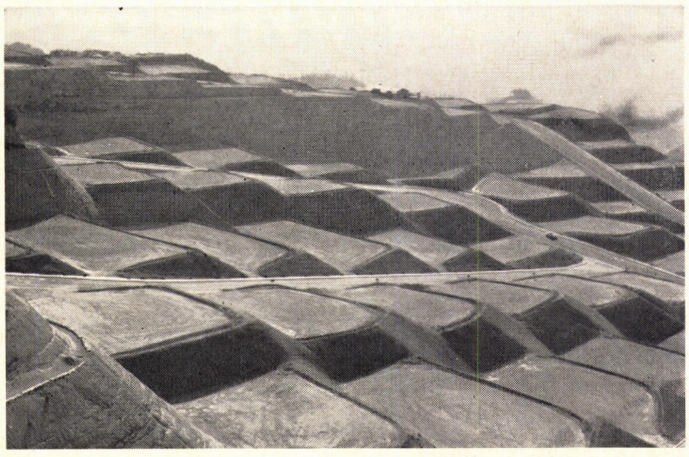
If the lumber industry can take these four steps quickly, they'll be doing themselves and the building industry a big and profitable favor. Knowledgeable lumbermen point out that honest stress rating and quality control—truly engineered lumber, in fact—could cut lumber costs to the user and increase revenue to producers. Lumber might then win back much of the market it has lost to other materials in the last two generations. (The building industry is using no more lumber now than it did in 1910, when our volume of building was only a fraction of what it is today.)

If the lumber industry and Commerce can't do what they must do, the alternatives are pretty bleak. In the first place, producers will have increased costs in negotiating the jungle of building code requirements that could develop due to a lack of meaningful standards. In the second place, if the lumber industry can't clean its own house, then the government may try to. And everyone knows that therein can lie footdragging, closed doors, empire builders and academicians who couldn't care less about markets and profits.

The time for the lumber industry to act is this very red hot minute.—RICHARD W. O'NEILL

NATURAL LOOK of hillside project results from holding cut-and-fill work to a minimum, fitting houses to slopes. Houses around circle are models.

Better land use: this hillside project makes



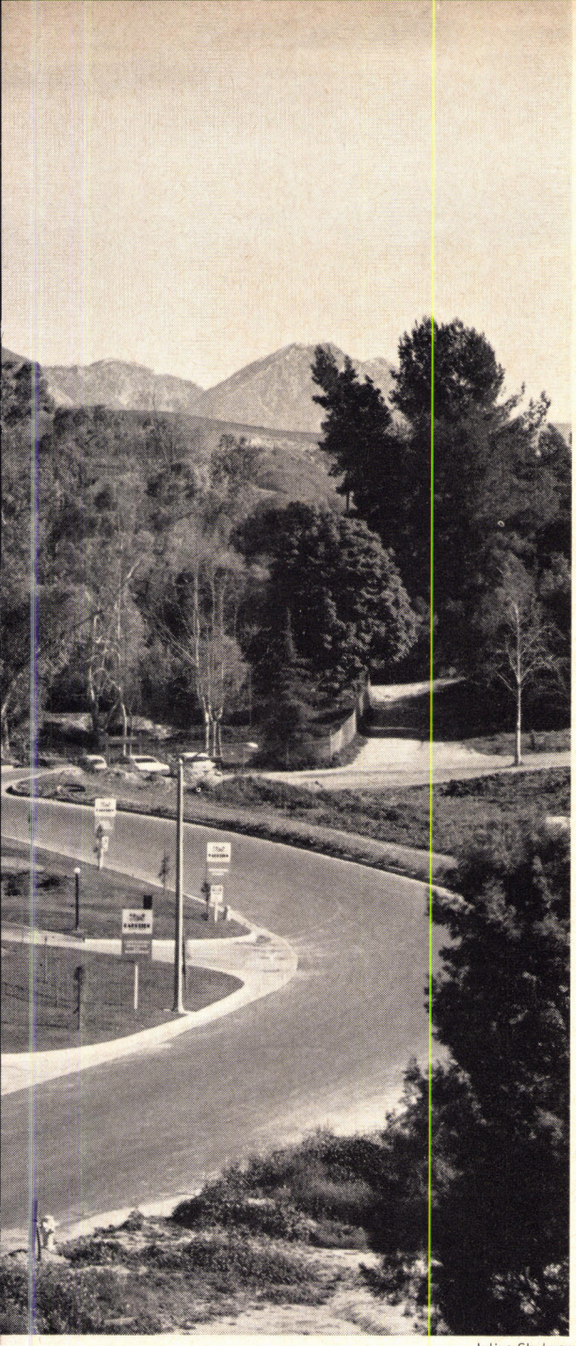
UNNATURAL LOOK would have resulted had builders followed standard development scheme. Pads lower house costs but raise earthmoving costs.

Had it been developed like most other tracts in the same area, the Fullerton, Calif., project shown above would have been built on tiers of bare hillside pads like those in the photo at left.

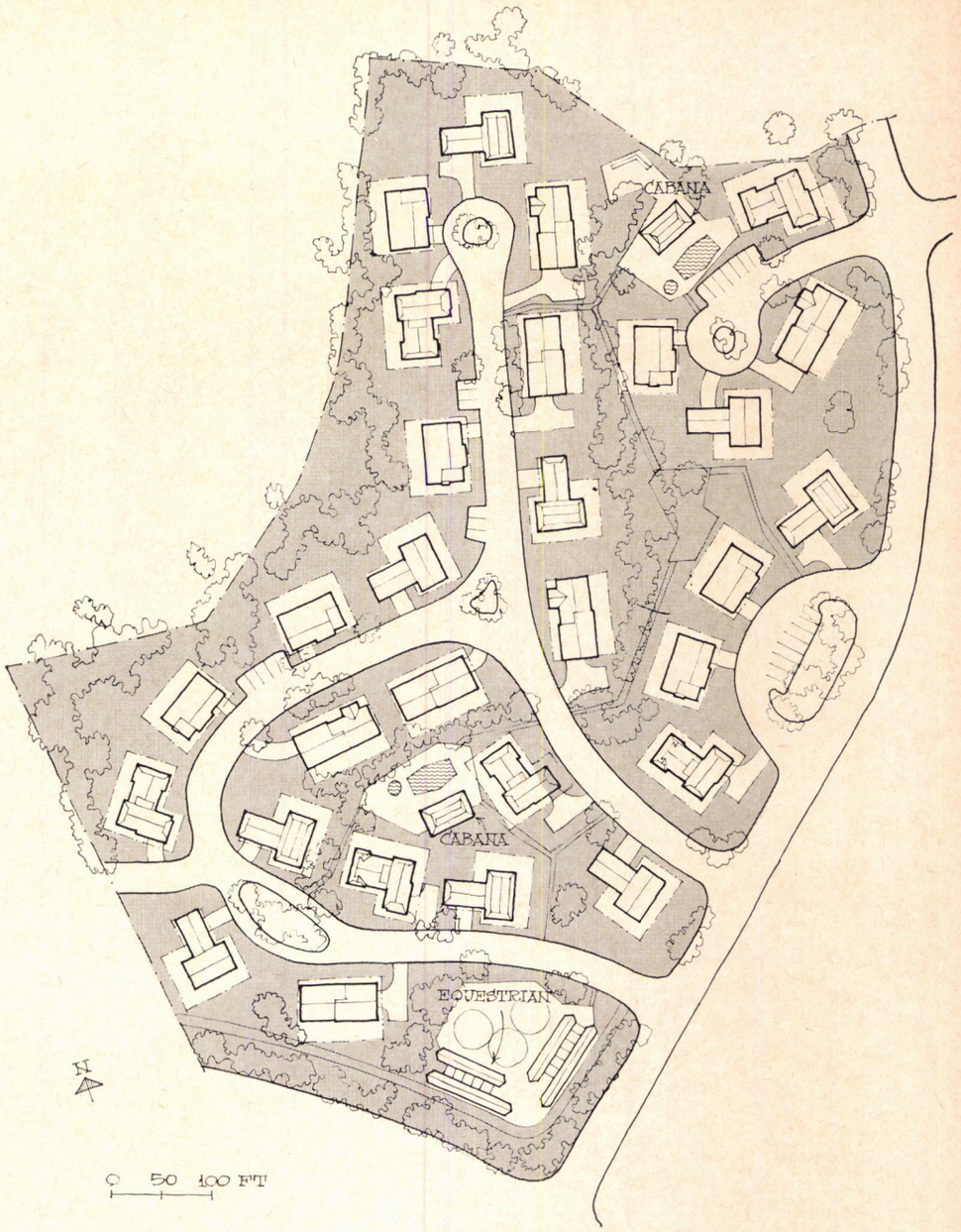
What's more, the project would have been economically unfeasible. The 14-acre site would have yielded only 20 pads —even though zoning allows 20,000-sq.-ft. lots—and the bill for moving 80,000 cu. yds. of dirt would have topped $40,000.

So the architectural firm of Hai C. Tan & Assoc. tried a different approach: design split-level houses to fit the hilly terrain, cluster them in the most buildable parts of the site and leave the more difficult terrain as greenbelt areas.

Result: 29 lots instead of 20, earth-



Julius Shulman



CLUSTER PLAN keeps fee lots, marked by broken lines around houses, at minimum size.

another strong case for cluster planning

moving costs of $18,000 instead of more than $40,000, and 17 sales of houses priced from $47,000 to $53,500 in the first three weeks.

But before the project could be started, Hai C. Tan had to win approval for a number of zoning variations, including 1) very small lots—the land below each house plus a narrow perimeter strip (*see land plan, above*); 2) common ownership and maintenance of the remaining land, two swimming pools and an equestrian area; and 3) private drives rather than roads, with two 10′-driving lanes, an 8′ parking lane on one side and a 4′ shoulder on the other. Average density of the project would remain the same as if conventional 20,000-sq.-ft. lots were used, and houses would be at least 35′ apart rather than the 20′ required by zoning.

Once the plans were approved, another problem cropped up—neither Hai C. Tan nor the owner of the land could find a builder willing to buy the property and build the project. The reason: builders experienced in high-priced housing were afraid that buyers would not like the cluster idea.

Finally a custom-building firm, John Halverston and Joe Eudemiller, agreed to take on the job—providing Hai C. Tan & Assoc. would joint-venture it with them. The firm agreed, a landscape architect, Jack Chandler, joined, and Lakeside Partnership was formed to build the project.

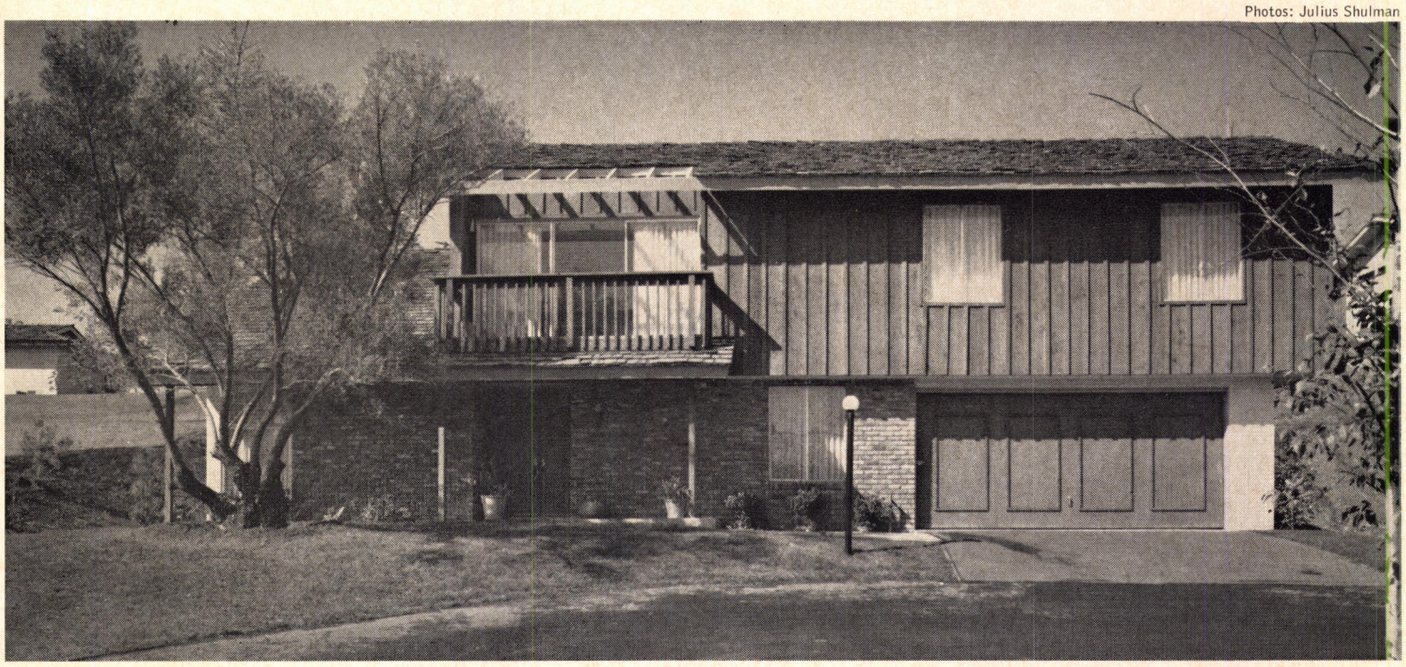
Buyer acceptance of the clusters was immediate. Only one sales hitch developed: most prospects had to sell expensive houses before buying in the new project. Lakeside has just started a trade-in program to help close contingent deals.

Houses were just as important as land to the success of the project. Hai C. Tan designed four models—three split-levels and a split-entry—to fit the many varieties of slopes which resulted from non-pad developing. And the flexibility afforded by multi-level houses helped make possible an important sales feature: each house is designed to fit the living patterns of one particular type of family.

To see photos and plans of the four models, and how they fit both the land and the buyer, begin on the next page.

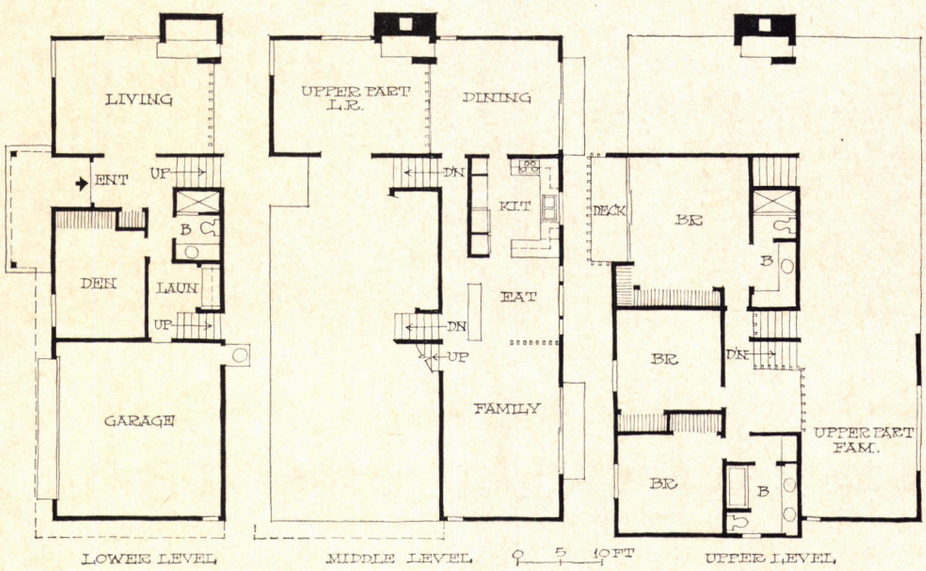
continued

Photos: Julius Shulman



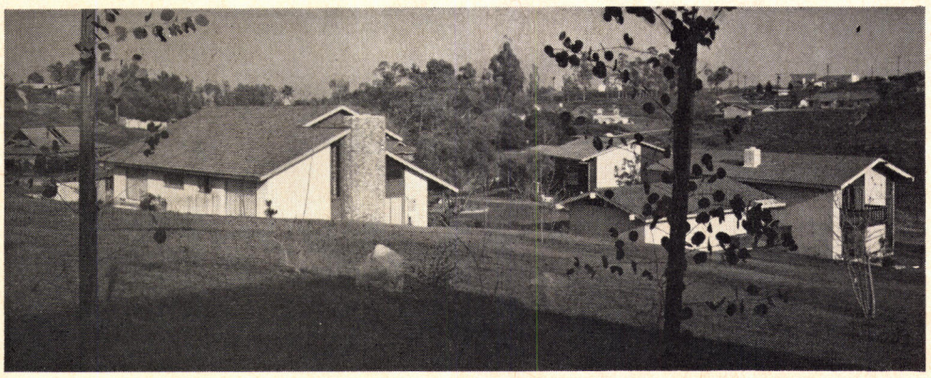
$48,000 MODEL looks like a two-story. Front entrance, left, is sheltered by deck. Sliding glass doors above open to deck from master bedroom.

An uphill split-level for the family that likes informality . . .

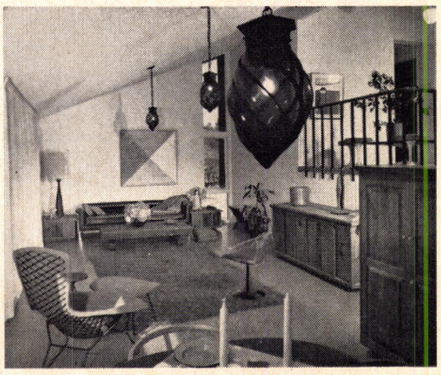


Each of Lakeside's four basic models stresses a particular part of the living area; in this one the dominant element is a huge family room-breakfast area (*photo, below*) that stretches almost two thirds of the way across the back of the house. A high ceiling, which slopes up to the bedroom level, adds to the feeling of spaciousness. And since it is on the middle level and opens to grade at the back of the house, the family room is directly accessible to outdoor living areas.

But though he may enjoy informality, the buyer of a $48,000 house also wants prestige. This model has a big entry and a formal living room which is overlooked by the dining room half a level above. A den, located on the opposite side of the entry from the living room, can also serve as a guest bedroom.



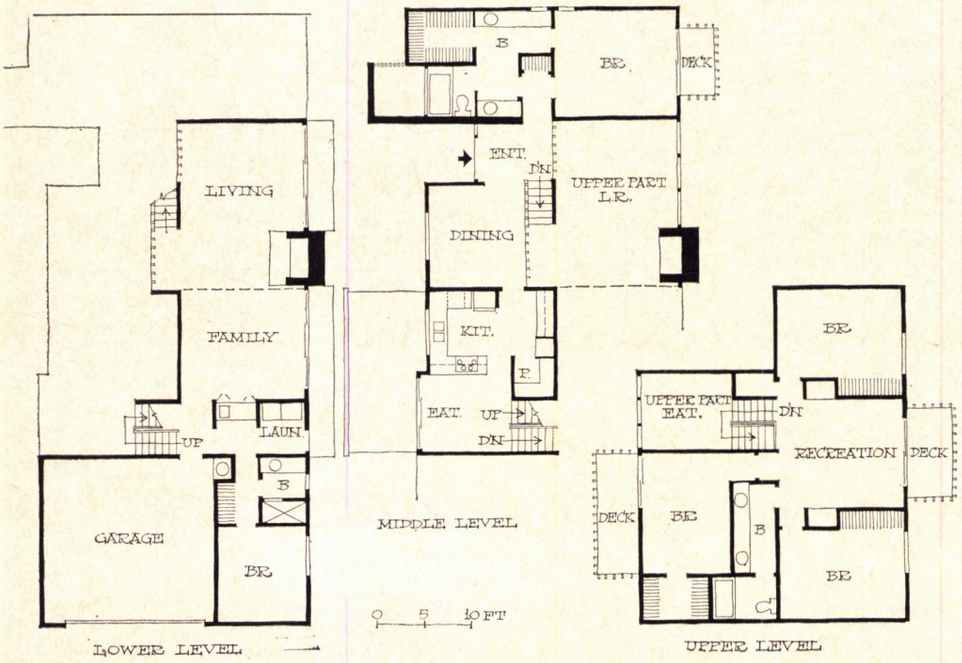
REAR ELEVATION shows middle level opening on grade. Sloping ground lends added privacy to outdoor living area. Sliding glass doors to right of chimney lead into living room.



BIG FAMILY ROOM has high sloping ceiling. Railing at right is on upper bedroom level.

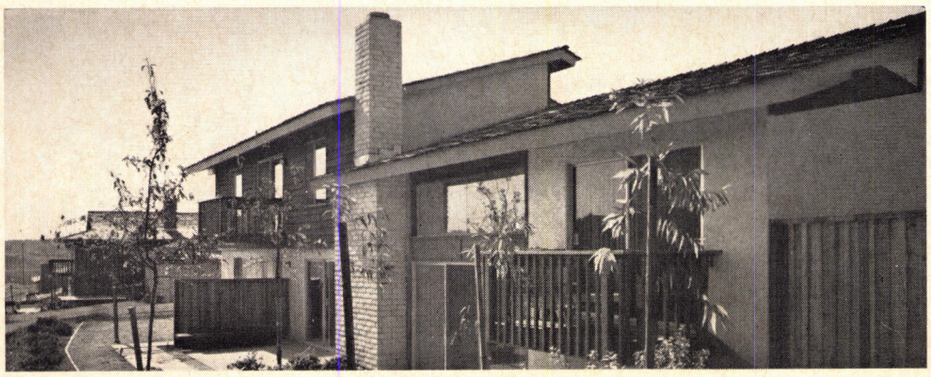
$53,500 MODEL can be built on sites that slope both to the rear and to the side. Entrance is at left beyond low brick wall, garage doors are at right.

...and a downhill split for the family with lots of children

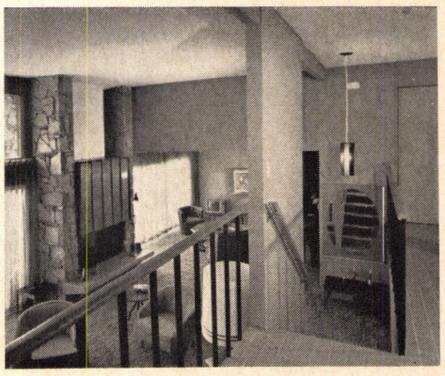


More specifically, this model is designed for the buyer whose children are old enough to be left more or less by themselves. The entire upper level is given over to three bedrooms and a big bath grouped around a playroom. The stairs from this area lead down to a breakfast nook on the middle level and a mudroom on the lower level. Both the breakfast nook and the mudroom, have entrances from the outdoors, so juvenile traffic never needs to cross adult territory.

Adult living is concentrated in the opposite end of the house. The master bedroom suite is immediately off the front foyer, and the master bath is so arranged that it can be used by guests. The formal dining room opens off the other side of the foyer, and the living room is a half-level below and to the rear.

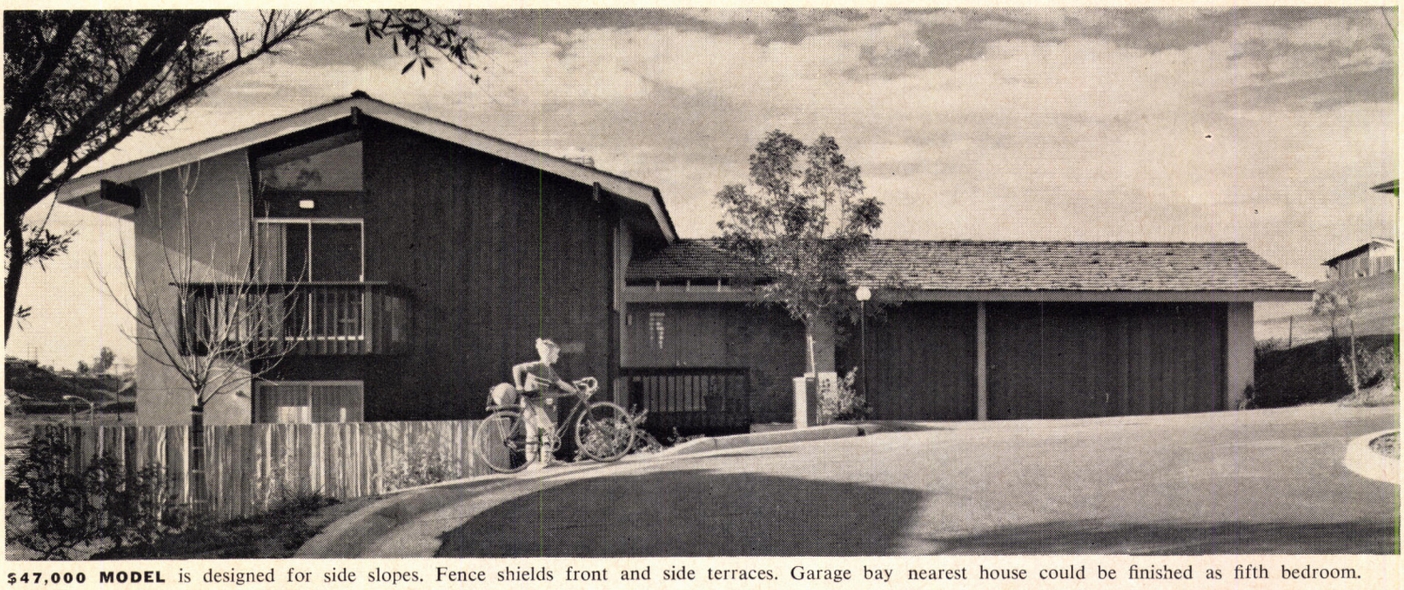


LONG REAR TERRACE serves family room, left of chimney, and living room, right of chimney. Service area is beyond fence in background, master bedroom deck is in foreground.



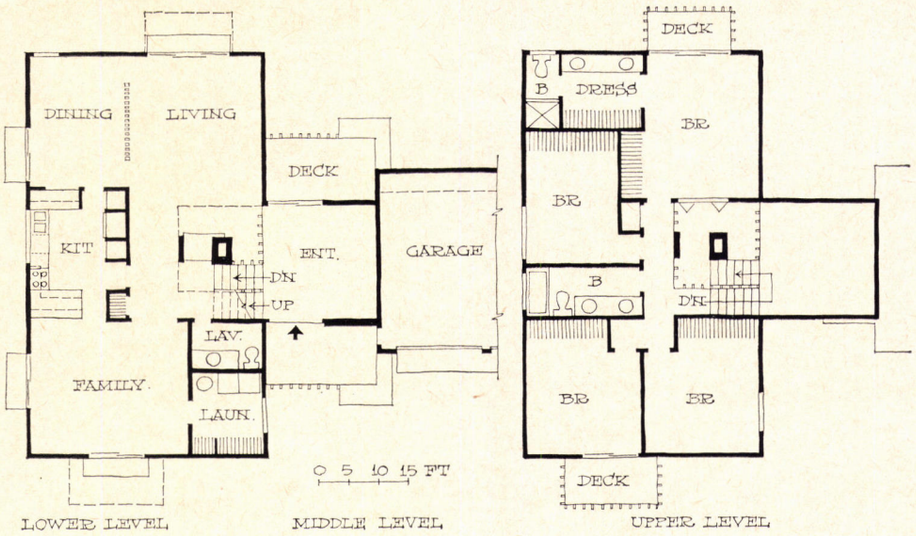
LIVING-FAMILY ROOM is on lower level. Stairs lead up to level of dining room and foyer.

Photos: Julius Shulman



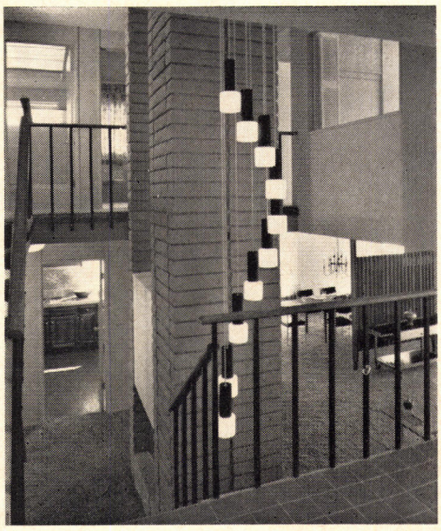
$47,000 MODEL is designed for side slopes. Fence shields front and side terraces. Garage bay nearest house could be finished as fifth bedroom.

A sideways split-entry for the family with young children...



This is the nearest thing to a conventional model that Lakeside offers. It is based on the fact that while older children can be left pretty much to themselves, young children need supervision. Parents and children's bedrooms all are on the upper level; below, the kitchen is placed to overlook the family room, dining room and backyard. And because young families have a habit of getting bigger, space for a future fifth bedroom is provided in one end of the oversized garage.

Since a cluster plan minimizes the importance of frontage, Lakeside was able to turn this split-entry at right angles to the conventional position and run the garage wing out to one side. The result: a long (almost 70′), low-looking house that adapts far better to a sloping site than could a front-facing split-entry.

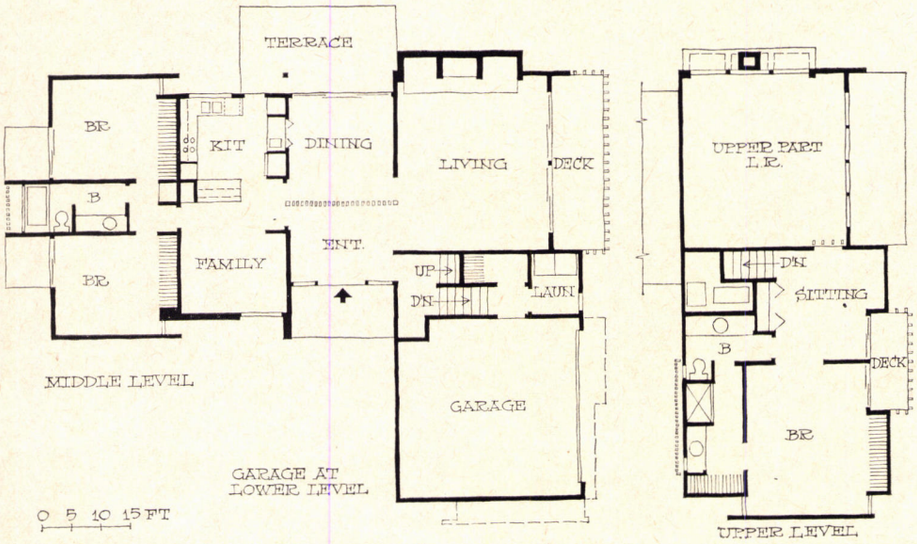


OPEN STAIRS (*left*) lead down to kitchen (through door) and living area, up to bedrooms.

REAR YARD (*above*) includes patios off living room, left, and family room, along side to right.

$47,000 MODEL has the exterior of a conventional side-to-side split. Jutting wall section, right, adds two slit windows to master bedroom (*see plan*).

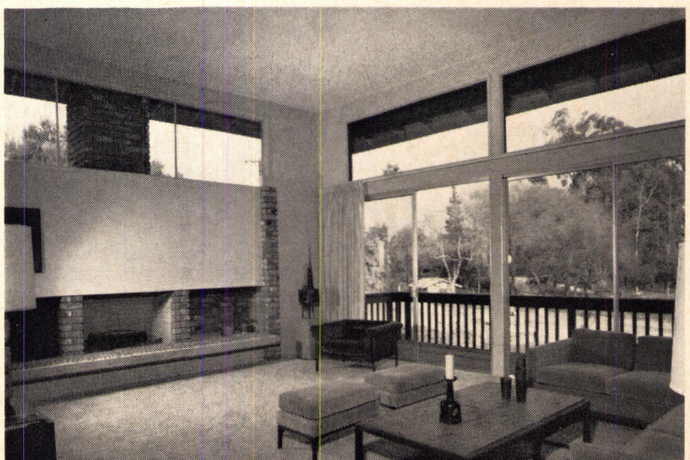
...and a side-hill split-level for the older empty-nester



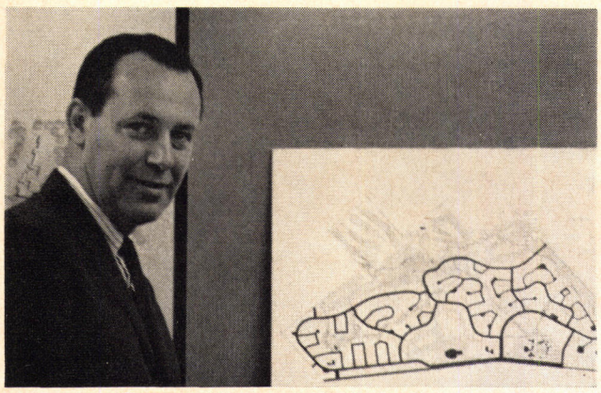
Empty-nesters—couples whose children have grown up and left home—have highly specialized needs. They live alone, so their house must be designed primarily for the comfort of two adults. They need room for guests—often grandchildren. And their entertaining will generally be formal.

Lakeside built this model specifically to meet these requirements. It has a huge master bedroom suite which includes a sitting room and a fully compartmented bath. Two bedrooms and a bath form a separate guest apartment at the other end of the house, and a small adjacent family room can be used as both a playroom and eating area if the guests include small children. The living area includes a big formal living room that opens to a balcony deck and a dining room that opens to a rear patio.

DOWNHILL ELEVATION shows unusual handling of levels. Master bedroom is directly over garage; living room, right, is stepped a half-story down.



MID-LEVEL LIVING ROOM has a 10½′-high ceiling, full-length glass wall opening to railed balcony. Fireplace wall is topped with clerestories.



PRESIDENT Roger Ladd advocates by-the-book management.

By-the-book management: one way to build stability into a crisis-prone business

When Ladd Enterprises of Crystal Lake, Ill., planned its operations for 1965, it set two definite goals: 1) sell 301 houses and 2) net a profit of 5% to 8%.

But during 1965 almost everything that could come unglued did come unglued. Heavy spring rains delayed construction and, worse yet, kept prospects away in droves. A new subdivision, where the company had counted on sales, opened six months late. And, to top it all off, a tornado dropped in on Ladd's main subdivision and did $60,000 worth of damage—some of it to a model house and the sales office.

Such a succession of disasters would have finished off many a building company. Yet Ladd Enterprises actually topped its sales goal—303 houses were sold—and profits were right on schedule.

Ladd Enterprises survived its crisis because it operates by the book

Not the usual builder book, but the businessman's book. Roger Ladd, 42-year-old president of Ladd Enterprises, runs a shop which, while merely sound by general corporate standards, is downright reactionary by builder standards.

Item: Ladd's average annual growth rate is about 20%. By contrast, 50% to 100% is not unusual for young building companies in promising markets.

Item: Ladd's ratio of assets to liabilities is so strong that the company can operate almost entirely on its own capital. This is virtually unheard of in homebuilding, where maximum—and expensive—credit is a way of life.

This record of fiscal responsibility has been duly noted in banking circles, where builders are all too often looked on as reckless, undercapitalized boom-and-bust operators racing from one tract to another to keep ahead of their creditors. Says Fred Pullman vice president of Chicago's prestigious Northern Trust Co.:

"We're a very conservative bank, like Morgan Guaranty in New York, and conservative banks don't usually finance builders." Yet Northern Trust accords Ladd Enterprises the honor of being the only builder account it will carry.

All this sounds a bit heady for a company that 1) operates in a town with a population of only 10,400 and a county with a population of 84,000 and 2) couldn't make a penny of profit on house sales in a subdivision it closed out only four years ago. In fact, it was this experience which convinced Roger Ladd that the company had to be put on a sound management basis.

Roger Ladd went to school to learn how to manage his company

But when he first entered the housing business, right after World War II, good management didn't seem particularly necessary. Togther with his father, the late Jasper R. Ladd ("The best small businessman I ever met"), Roger Ladd started buying up pieces of inexpensive land northwest of Chicago. Much of it was in the lake country, 40 to 60 miles away from the city, but one tract was just 20 miles from the Loop.

"We had blind luck," says Ladd. "The state built an expressway and put an interchange just a mile from our land. We couldn't help but make money." Ladd developed the land and sold off lots until 1959, when the lot market dried up.

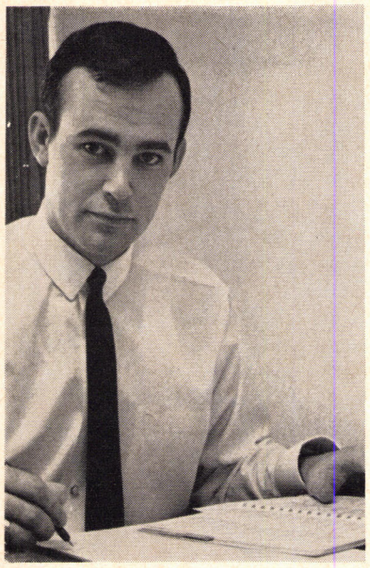
"We found then that the only way we could sell land was to build houses on it," says Ladd, "so we became homebuilders. We never made any profit on the houses,

Photos: H&H staff

VICE PRESIDENT David Ladd oversees construction and land development.

but we were making a 400% capital gains profit on the land, so we didn't care."

But the big tract was finally built out in 1961, and Ladd realized that henceforth his profits would have to come from his houses. So together with his younger brother, David, fresh out of engineering school at Marquette, he enrolled in the University of Denver where Professor Lee S. Evans was beginning to show how textbook business management could be applied to homebuilding—an industry that stubbornly resists good business practices. Back home, the Ladds began putting the Evans theories into practice, and the results were so promising that they packed their younger brother Jeff, now 25, off for more study under Evans.



MARKETING VICE PRESIDENT Jeff Ladd directs advertising and research.

Basis of Ladd's new management system is slow, controlled growth

By housing industry standards, Roger Ladd's sales goals are modest. While many builders aim at a sales volume ten times their equity, Ladd is content with sales just two and a half times net worth—a ratio calculated to produce a growth of between 15% and 20% a year.

But though this growth rate is low, it does not necessarily follow that the company will stagnate. Ladd Enterprises has set its sights on earning a net profit of 15% to 20% of its invested capital (since Ladd's invested capital at the start of 1966 was $1.8 million, the goal is a net of between $270,000 and $360,000). And while this figure is a little lower than the current 20.6% average of all U.S. manufacturing corporations, Roger Ladd points out, with absolutely no air of smugness, that General Motors also has held a 15% minimum for all of its corporate life.

Controlled growth is also important to Ladd's management structure: it gives the company time to absorb new operations and new personnel.

"We try to plan a major expansion every two or three years," says Roger Ladd, "and use the time in between for digestion and regrouping." A new subdivision was opened early last year, and a 600-acre retirement community is planned for late 1966. One new salesman was added to the payroll to handle the new tract, and construction crews were expanded early enough to become familiar with Ladd methods before actual building began.

But while most builders might look on Ladd Enterprises' growth rate as too tortoise-like, Professor Evans recently warned that the company might be growing a little too fast. For although Roger Ladd plans to boost sales 18% (to 358 houses) this year, his crews will be called upon to increase actual production by 38%—to catch up with a backlog of 70 sales made at the tail end of 1965.

But Ladd is not worried. He feels sure that the extra load can be handled comfortably, and he is confident of passing the $10 million sales mark by 1969.

Ladd's optimism is based on a management system whose soundness was proven in trouble-ridden 1965. Details of the system are spelled out below; how they carried Ladd through last year's crises and still produced the desired profit is told on page 103.

Keys to Ladd's by-the-book operation: clearly defined executive responsibilities and conservative money policies

"Management is basically simple," says Roger Ladd. "You let specialists run their jobs while one man or group at the top makes sure they are coordinated."

Ladd Enterprises learned the importance of this principle the hard way. In their early days, Roger and David Ladd each took over a subdivision and handled everything from land development to sales. Gradually they discovered this was the path to red ink, and today the company is divided into four departments, each run by a specialist:

Construction, headed by David Ladd, the engineer, aided by Don Gerstad, construction director.

Marketing and advertising, directed by Jeff Ladd, a marketing graduate.

Sales, run by Vice President Robert Robinson, a marketing graduate.

Accounting, headed by John Lancione, an accounting graduate. Ambrose Thilman manages loans and rental property.

Roger Ladd, as president, has no specific duties. "Someone has to disassociate himself from the day-to-day activity and look at the broad corporate objectives and goals," says Roger Ladd. "I let the others worry about the brush fires; I worry about the forest fires."

Each department prepares—and follows—precise estimates

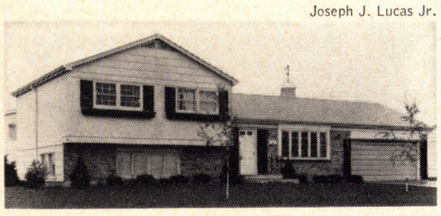
"Without a plan," says Roger Ladd, "you can't survive." So Ladd executives spend a good part of two winter months honing their budget for the coming year. The company has scrapped the traditional builder method of forecasting only house sales in favor of a four-part budget telling management month by month when cash will be required and for what. The forecast covers:

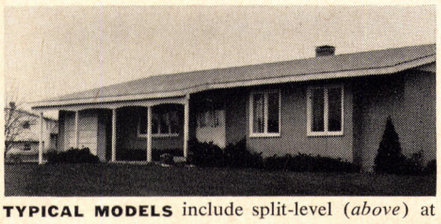
continued

SALES VICE PRESIDENT Robert Robinson leads sales force of eight.

COMPTROLLER John Lancione supervises cost accounting and cash flow.

Joseph J. Lucas Jr.





TYPICAL MODELS include split-level (*above*) at $21,900 and two-bath ranch (*below*) at $19,000.

Sales to bona fide buyers who can qualify for mortgage financing.

Starts of new houses, to measure the time when the first cash outlay will be needed.

Completions of new houses when all bills are expected to be settled.

Closings when the company receives proceeds from the mortgage loan.

Each figure is estimated by month and broken down by subdivision.

Costs are analyzed for each house to avoid repeating costly errors

In the company's early days, field superintendents ordered materials for each house by memory. If they ran long on one house, they made up for it on the next, unless the error was small enough to fall into the scrap pile. "Not only were we wasting materials," says David Ladd, "we were using a high-priced field man as part-time office clerk and losing about 50% of his work volume."

Now all materials ordering and labor scheduling has been taken out of the superintendent's hands and brought into the office, where costs for each house are entered on a master card for analysis. As a result, the company now has a master order list of materials for each house model. Materials are divided into load numbers to correspond with the construction phase—i.e., load #1 contains deck materials load, #2 wall materials, etc. Every day the superintendent radios the construction stage of each house to the office, and the office staff, working from the master schedule, orders delivery of the proper load. Purchase orders are made on a snap-out carbon form that becomes the supplier's invoice, thereby preventing the cost accounting system from having to back-track to pick up late bills.

Labor costs for each house are reported weekly by the superintendent. (Exceptions: plumbing, electrical, heating and decorating work, which is subcontracted.) As a result, management can spot and correct costly errors quickly, so one pricing error is not duplicated in dozens of houses.

This cost control system is vital to Ladd Enterprises' budget forecasting. Labor and materials costs for every model can be estimated from past records so accurately that 90% of all subdivision houses hit their projected costs right on the nose.

Ladd uses its own working capital to cut the cost of building loans

"Every building loan costs a 1% or 2% fee which we pay even if we repay the loan in 30 days," says Roger Ladd. "Over a year that adds 4% to 8% to our costs, and therefore to house prices."

Solid, old-fashioned fiscal conservatism has put Ladd enterprises in the enviable position of being able to build with its own money. Over the years the company has retained virtually all its profits, and now has close to $500,000 in working capital. Roger Ladd expects this to be enough to carry the company over the normal highs and lows of a season.

But Ladd Enterprises also keeps a credit line open with its banker, and in an emergency, the company can draw upon standard business loans (at going rates, without the extra fee). The reason: the banker is kept constantly informed of the company's financial condition. A weekly list of all money due the company and all bills payable within the next two payment dates (the 5th and 20th of each month) is sent to the bank officer handling the account. "This rigid financial control gives us confidence in Ladd," says Vice President Pullman of Northern Trust.

The weekly listing of money due and bills payable also gives Ladd management a clear picture of the company's current financial position. And it serves as a checklist for mortgage closing proceeds, buyer deposits and other moneys due. When a due amount appears too often in the listing, collection efforts are stepped up.

"Quite frequently we find that slow delivery of a title policy or property survey is holding up a closing," says Roger Ladd. If cash on hand runs low, short-circuiting such technical delays can generate $50,000 on relatively short notice.

Cash on hand is important because Ladd Enterprises discounts all its bills. So in addition to the weekly listing, each morning Comptroller John Lancione reports the company's bank balance (if it falls below $100,000, Roger Ladd begins worrying) and the total of checks to be written that day.

Ladd's tight control system requires lots and lots of paperwork

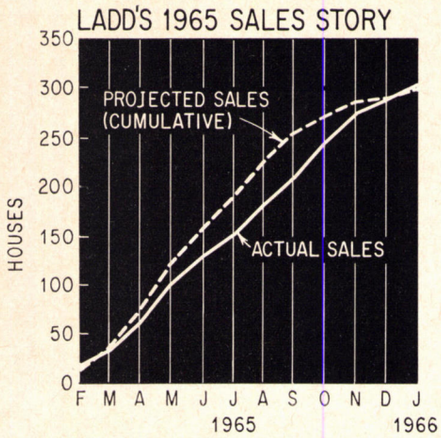
Most builders would turn and run when they heard that the company's overhead costs 13.4% of gross income.

But Roger Ladd considers the money well spent. "I have to know what each department is doing, and each department has to know what the other departments are doing."

For example, each week David Ladd's department reports the status of all houses under construction to the other three departments. The report aids salesmen in arranging move-in dates with buyers, and it warns the accounting department to make sure mortgage loan applications are processed in time for closing.

"If the four departments are informed, all I have to do is coordinate things," says Roger Ladd.

The proof of the pudding: Ladd's by-the-book management pulled the company through an almost-disastrous year



CAREFUL FORECAST of 1965 sales alerted Ladd management to crisis in the making in April.

NEWS!
NOW FOR THE FIRST TIME
LADD ENTERPRISES
WILL BUILD A VALUE - PACKED HOME OF YOUR CHOICE ON
YOUR LOT
(Anywhere in McHenry County and Any Other Approved Area)
AT TREMENDOUS
SAVINGS TO YOU
Low prices are assured by Ladd's gigantic buying power, large trained organization and many years of experience in building outstanding value into homes.
CHOOSE FROM 22 DESIGNS, STYLES, ELEVATIONS
Ladd offers a large portfolio of varied home designs, including Ranches, Colonials, Split-levels, Contemporary and Split-Foyer models. Each has outstanding character and a wide range of materials and equipment.
PLANS CAN BE VARIED TO SUIT YOUR NEEDS
LADD WILL ALSO
CUSTOM BUILD
ON YOUR LOT IN McHENRY CO.

CATCH-UP CAMPAIGN cast Ladd as on-your-lot builder and helped sales hit budget.

At the beginning of 1965 the Ladd sales forecast called for selling 301 houses in the company's six operating areas. And it also called for selling nearly two-thirds of the year's production—190 houses—in the first six months of the year.

But almost from the outset the sales forecast started coming apart. Incessant rains delayed construction on houses already sold, and, even worse, kept customers away from model homes during the all-important spring sales period. By the end of April, sales were lagging 20% behind predictions.

Then on Palm Sunday, April 11, a hit-skip tornado roared over Ladd's main subdivision, Coventry in Crystal Lake, and lifted roofs from four houses, including one model and the sales office. Without waiting for insurance approvals, David Ladd called about 60 workmen, and by next morning they had built new permanent roofs on all damaged dwellings to protect them from the rains which normally follow a tornado. Within two days the company had spent $60,000 to repair damages.

Now came another blow. The May forecast had called for sales to start at a new subdivision in the town of Belvidere, 28 miles to the west, where Chrysler Corp. was opening a new assembly plant. Ladd had relied upon a joint venturer, the owner of the land and a resident of Belvidere, to get zoning and subdivision approvals. But when the Ladds asked for engineering data to begin improvements, they discovered that the joint venturer was stalled because he had never processed a subdivision and did not know how to proceed. Ladd Enterprises stepped in and took over, but this delay, added to the previous problems, meant that by the end of April the company was in deep trouble.

"Our break-even point for the year was about $3 million," says Roger Ladd. "We had to make it."

First step out of the crisis: a switch to odd-lot sales

And the Ladds became odd-lot builders almost overnight. While the company's subdivisions were still being promoted in Chicago newspapers, local newspapers blossomed with ads like the one at left.

"We began bidding on everything—our houses on odd lots, custom houses on our lots, even some small commercial jobs," says David Ladd. "We wanted dollar volume. At one time we were building all over—our construction map looked like someone had fired a shotgun at McHenry County."

For most builders, a sudden switch of these proportions, with all its implications of a panic reaction, would disrupt construction schedules, erode morale and pile up hidden costs. But in the spring of 1965, the Ladd's cost control system saved the day because it could be adapted to accommodate a bewildering number of changes.

David Ladd set to work and from his minute records of costs, priced 400 separate changes and options, which Ladd then began offering in its existing models. Buyers snapped at the opportunity. The odd-lot campaign netted 15 sales on buyers' lots, each of them requiring an average of 15 custom changes. At one point Ladd was processing 876 separate changes from standard house plans through FHA.

"The changes caused chaos in construction and put a tremendous burden on our foremen," recalls David Ladd. And in some cases the changes delayed FHA processing so final closing was disrupted.

But the headaches paid off at the end of the year. The same rigid cost control system that produced tract houses at targeted cost and profit margins did the same for odd-lot houses and customized models. Gross profit before overhead was within 0.4% of the 21.6% profit margin the company aimed for at the beginning of the year. Small wonder that David Ladd now says, "Cost control is 75% of the secret."

When catch-up sales drained cash, Ladd fell back on its credit rating

Despite its intentions of using its own working capital for construction, Ladd twice was forced to borrow to get over the crisis-inflicted peaks and valleys of 1965. By September, the odd-lot program and tract sales had backed up $900,000-worth of sold but unbuilt houses. Normal working capital was insufficient to begin construction, so Ladd drew $210,000 from his bank. Because it was a term business loan, the company did not pay the extra fees normally attached to a construction loan. The loan was repaid within three months when the house sales were closed.

But as this problem was cleaned up, another cash drain appeared. Land development started on a 600-acre one-family retirement community, which Ladd plans to open this spring in McHenry, 13 miles north of Crystal Lake. In December and January, David Ladd's construction crews did $100,000 worth of work in the new project, and the company was again able to draw on its credit line to cover the costs.

—KENNETH D. CAMPBELL

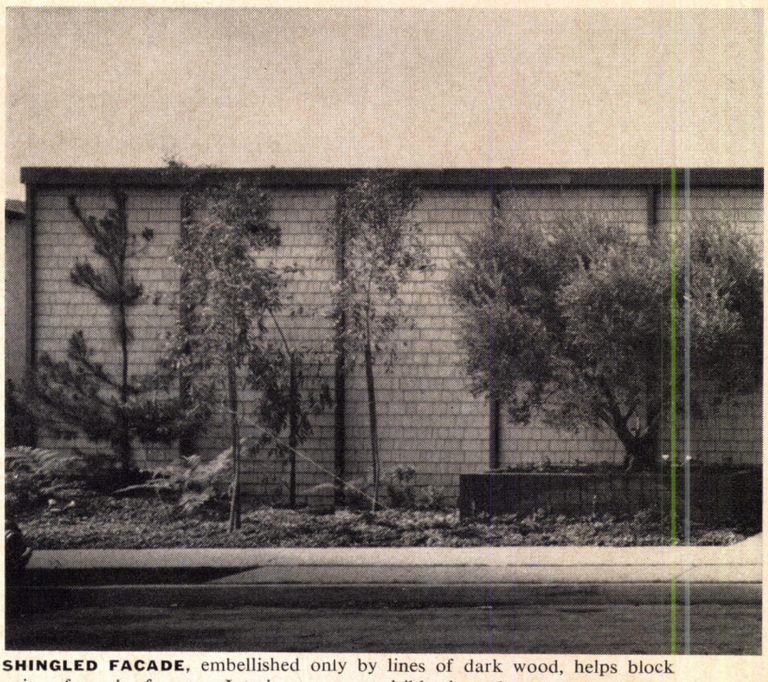
4 apartments for cramped urban sites

There is an average of a dozen units in each of the projects shown on the next eight pages. Yet the biggest site is only three-fifths of an acre, and, furthermore, three of the projects are on irregularly shaped or narrow lots.

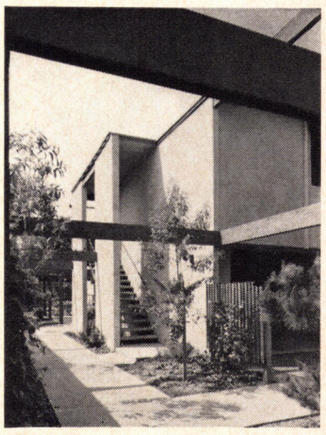
Nor is size the only thing that cramps the projects. All of them are hemmed in by some sort of problem neighborhood, and some are also hampered by local land restrictions.

Despite these difficulties, the architects have designed highly livable—and marketable—apartments. They have managed to provide privacy for each project as a whole, private outdoor space for individual units, ample recreation space for all families, ample off-street parking, *plus* good design and efficient floor plans.

All of the projects happen to be in California, which is not surprising. California is the largest garden-apartment area in the country. And California builders are now facing a problem that will soon become critical in other urban areas throughout the country: how to plan garden apartments for small, expensive sites where zoning rules out high-rise buildings, where only high-rent apartments are feasible and where densely populated neighborhoods make it doubly difficult to provide the privacy necessary to attract higher-income tenants.

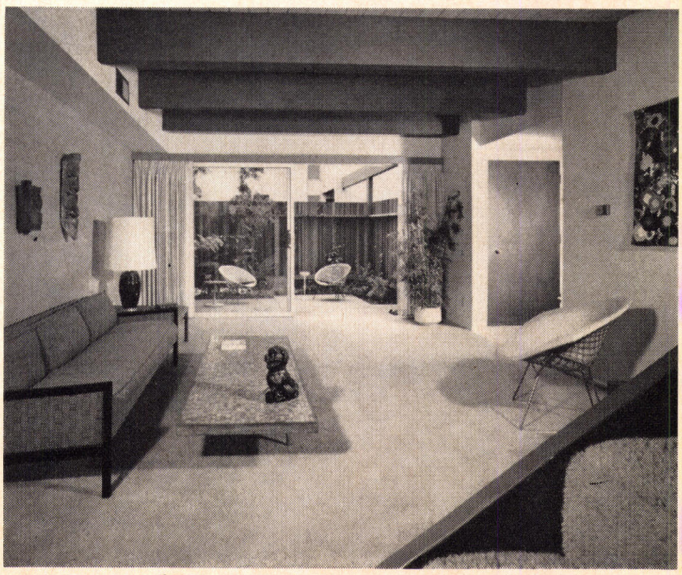


SHINGLED FACADE, embellished only by lines of dark wood, helps block noise of nearby freeway. Interior trees are visible through entrance.



SHELTERED STAIRWAY leads to two of the three upper units.

SHELTERED ENTRANCES to two-story units are recessed for privacy.



LIVING ROOM of two-story unit has heavy beamed ceiling. Private patio, beyond sliding doors, is fenced off from the central landscaped walkway.

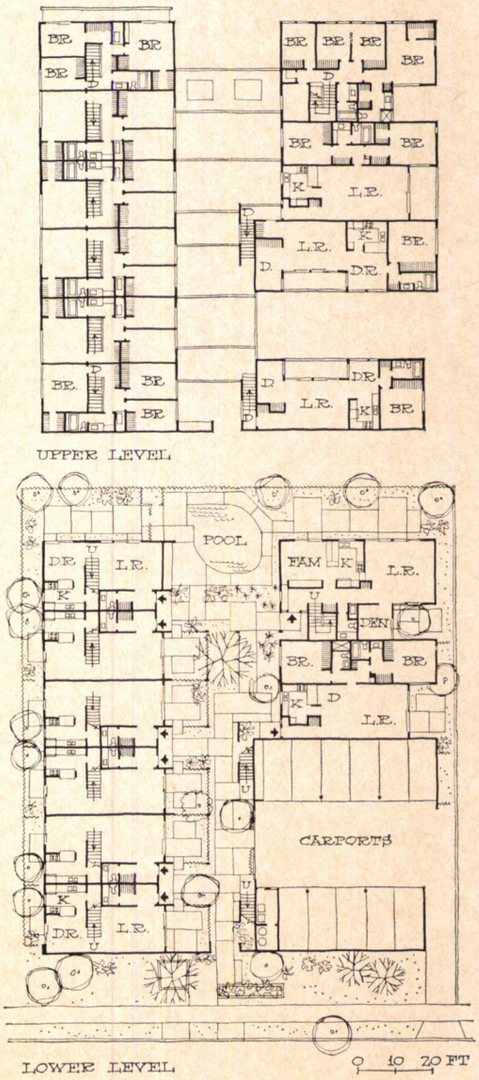
Photos: Richard Fish

1

Blank walls screen a high-rent project from its neighbors

The project is on two-fifths of an acre in a densely populated section of Los Angeles, and its neighbors include lower-rent apartments on both sides, a freeway not far from the front and a commercial area in the rear. Within these conditions, the owners of the land wanted to build high-quality apartments that could command higher rents ($170 to $350) than other projects in the neighborhood.

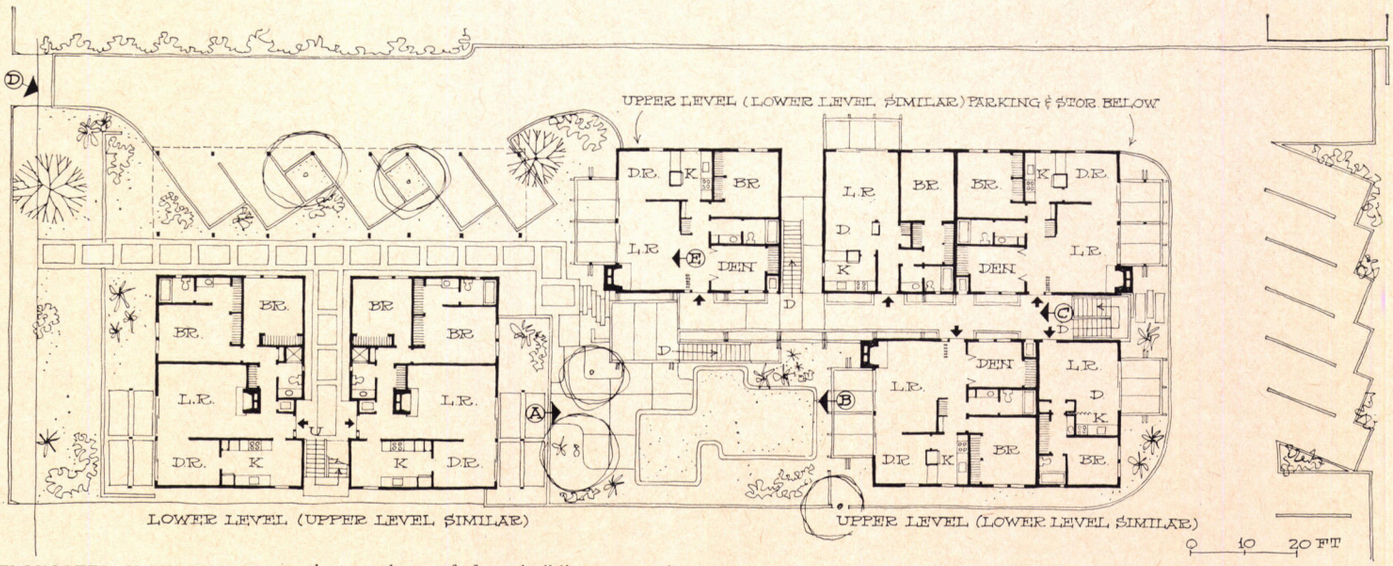
Architects Matlin & Dvoretzky faced a blank two-story facade toward the freeway, opened the parking to one side and ran a high wooden fence around the rest of the perimeter *(site plan, right)*. Then they created outdoor space inside the project by 1) planning 11 units instead of the 22 permitted by zoning and 2) putting the one- and two-story units into two parallel buildings with a 25′-to-35′-wide space between them. Existing trees within this space were saved, and landscaped walkways lead in to the private entrances and to the pool and courtyard at the rear of the 147′-deep lot. Finally, there are private patios both in the center mall and behind the perimeter fence. Builder: Joe Burrow.



TWO-BUILDING LAYOUT has landscaped center mall perpendicular to street front, private patios along the mall and along side lot lines.

Ricco-Mazzuchi Photography

INTIMATE SCALE of project stems from walled garden with big overhanging trees, house-size buildings with small wooden balconies. Perimeter driveway is behind shingled wall at right. Photo was taken from balcony of a smaller building (*view A in site plan, below*); larger building is at left.



ELONGATED U-SHAPED PLAN clusters three of four buildings around the landscaped garden court pictured at top of page. One-way (clockwise) perimeter drive circles the entire site. Parking space is provided in areas indicated and also underneath apartments at upper right.

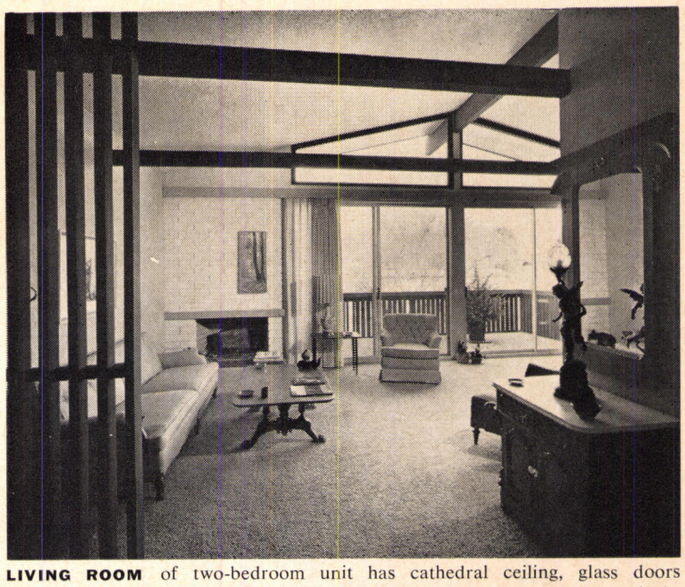
2

Small buildings and an interior garden court open up a narrow site

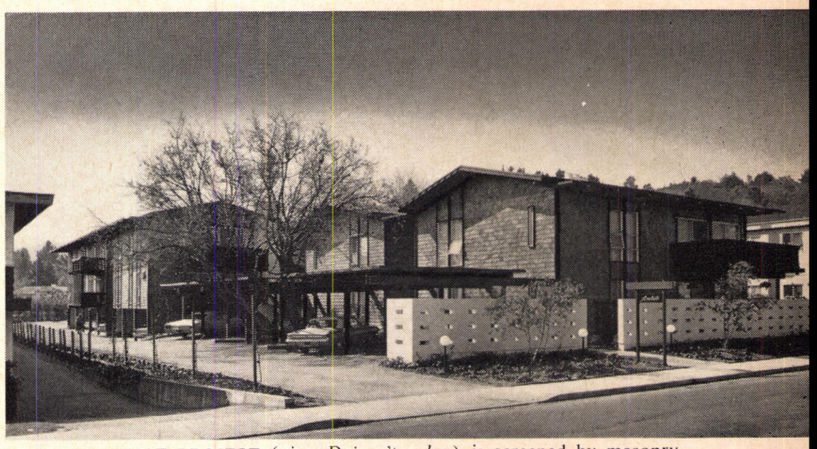
The site's assets include a quiet street in an established neighborhood and a pleasant view from both front and rear. But on the debit side, the site is only 100′ wide and 260′ deep.

To create a feeling of space within this small area, Architect Robert L. Goetz placed four separate buildings in a rough U shape around an interior courtyard. Space between the buildings, balconies that serve as open corridors to the units (*see cover photo*), and existing high trees all help to keep the central portion of the project from seeming crowded. In addition, all 14 units have private patios or balconies either facing in toward the courtyard or out toward the surrounding hills.

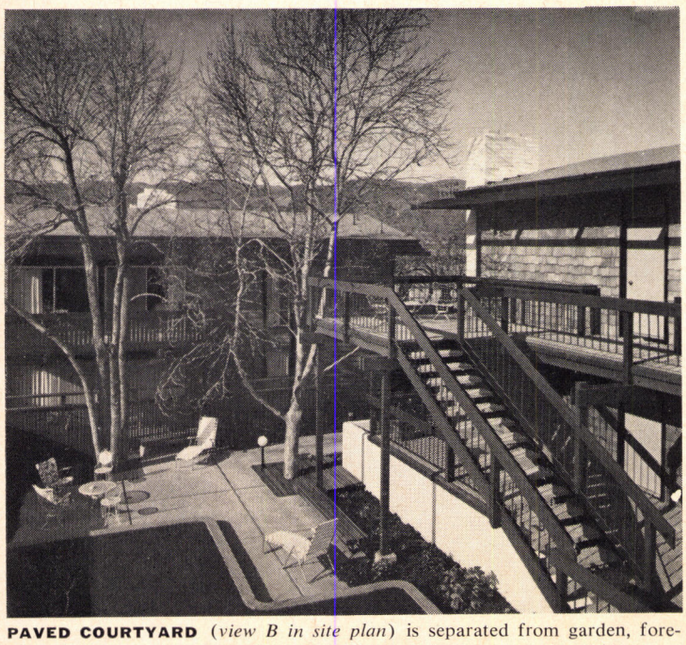
Most of the units have either two bedrooms or a bedroom and a separate den, and all of the larger units have fireplaces. Other features include gable-end glass walls, cathedral ceilings and compartmented baths or separate vanity and dressing areas. Rents range from $120 to $260. Location: Lafayette, Calif. Builder: Lakepark Construction Co.



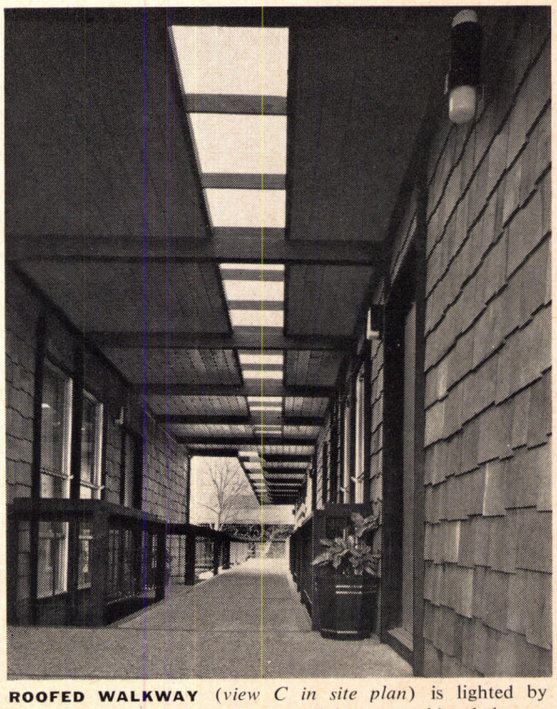
LIVING ROOM of two-bedroom unit has cathedral ceiling, glass doors opening to private balcony. Photo was taken from den (*view E on site plan*).



STREET SIDE OF PROJECT (*view D in site plan*) is screened by masonry wall. Walkway passes behind roofed carports, drive leads to rear of project.



PAVED COURTYARD (*view B in site plan*) is separated from garden, foreground, by retaining curb. Stairs at right lead to upper level corridor.

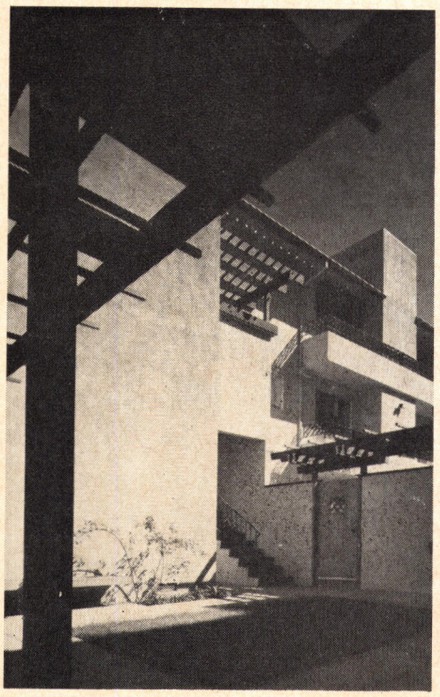


ROOFED WALKWAY (*view C in site plan*) is lighted by skylights. Fenced wells admit daylight to corridor below.

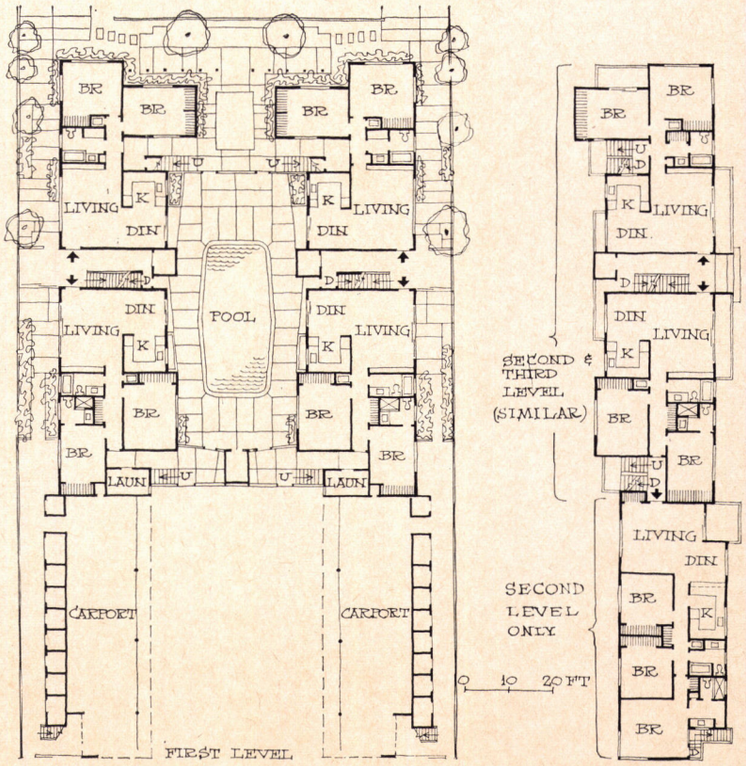
continued

Photos: Gordon Bartels

PARKING AREA is entered from existing alley at rear of site. Each of the carport wings has parking space for seven cars below plus a single three-bedroom unit above. The higher, three-story portion of the building contains 6 two-bedroom units separated by a stairwell (*see plan, below*).



FRONT ENTRANCE opens into this small landscaped court. Gateway leads to pool area.



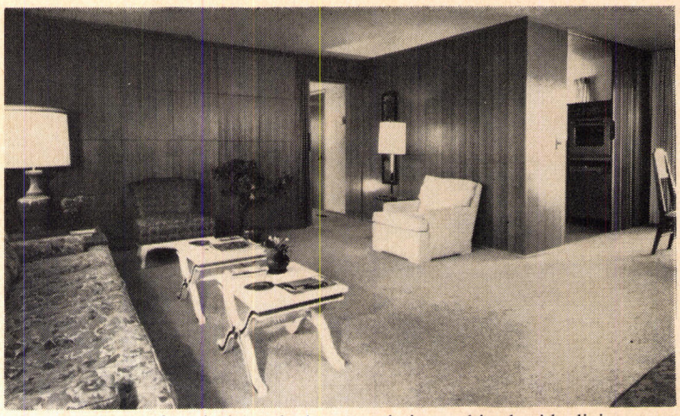
IDENTICAL BUILDINGS face each other across a central courtyard and a paved parking area. Upper floors of buildings by the pool have balconies projecting over the side yards.

3

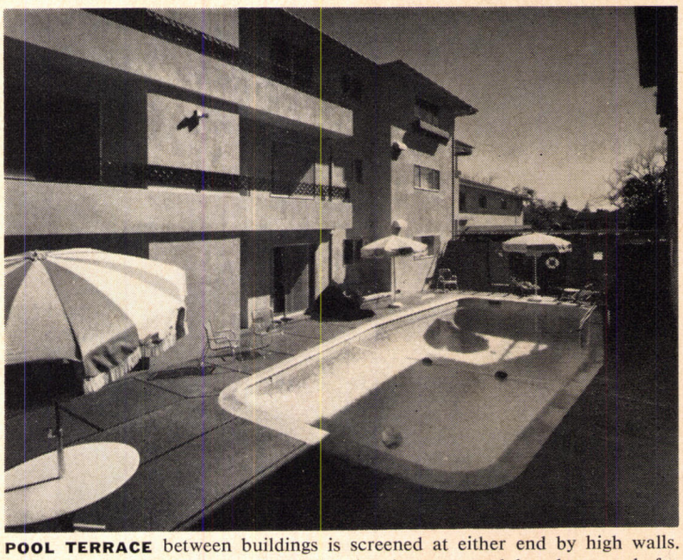
High-priced units form an island of luxury in a neglected area

The neighborhood is gradually becoming a prime part of downtown Palo Alto, Calif. But, when this project started, 1) the area was rundown, making it difficult to rent or sell expensive units; 2) land prices were very high, making it impossible to justify inexpensive units; and 3) available plots were small. This one, made up of two single-family plots, is 100′x190′, and zoning allows only a 45% coverage, including projections.

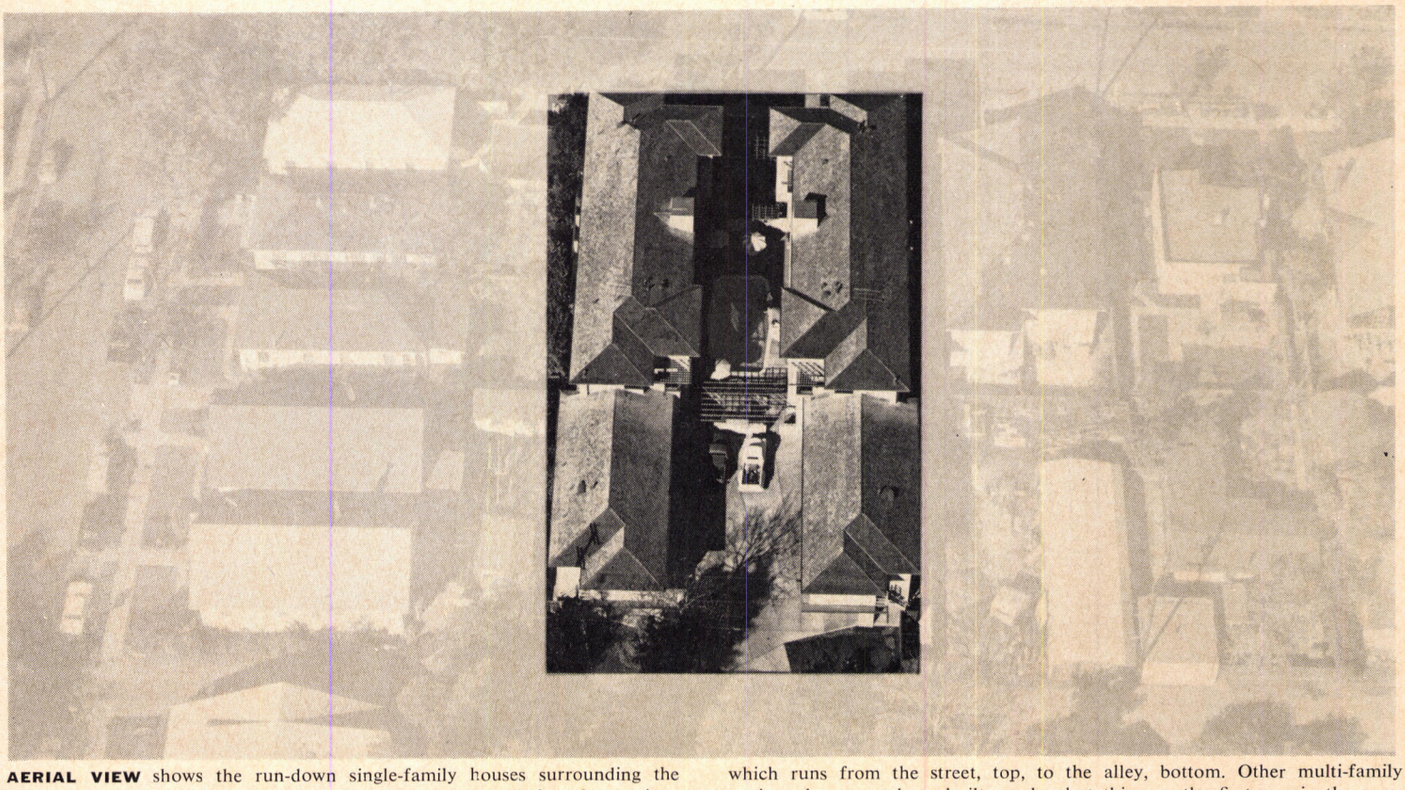
Within these limitations, Architect-Builder W. G. Yourieff created 14 large condominium units which sold out at $30,400 to $38,000. The reason: the project is completely private. The central court with its swimming pool is shielded by buildings on either side and walls at either end. Individual units are separated by stairwells and have private, walled balconies. Other features include sheltered parking areas for owners plus off-street parking space for guests, outside storage lockers near the garages and two laundry rooms.



LIVING ROOM of typical two-bedroom unit is combined with dining room to create a large (362 sq. ft.) open area with paneled storage walls.



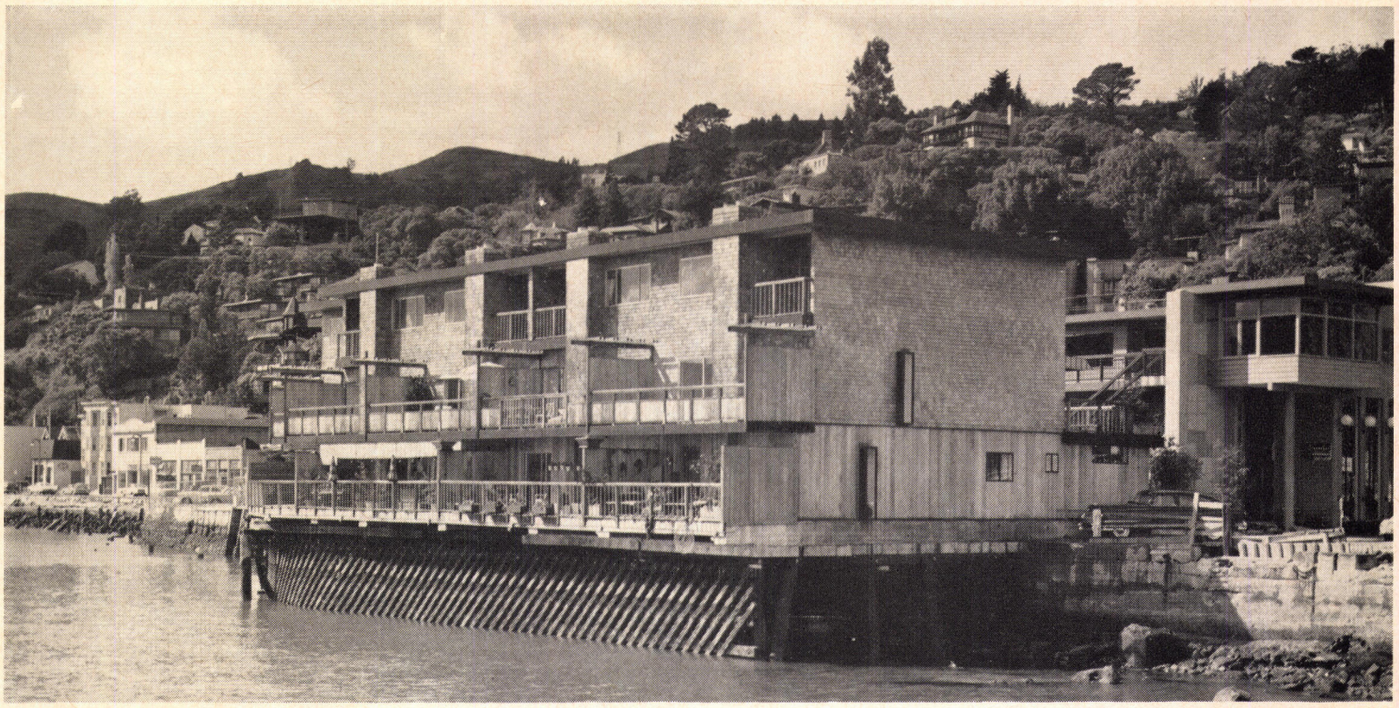
POOL TERRACE between buildings is screened at either end by high walls. Upper level units have cantilevered balconies separated by elevator shafts.



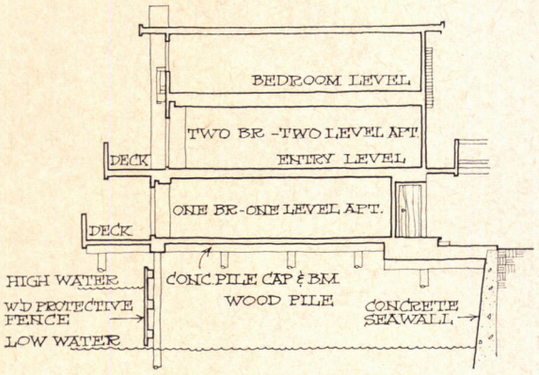
AERIAL VIEW shows the run-down single-family houses surrounding the project. Two long, narrow, side-by-side lots were used for the project, which runs from the street, top, to the alley, bottom. Other multi-family projects have now been built nearby, but this was the first one in the area.

continued

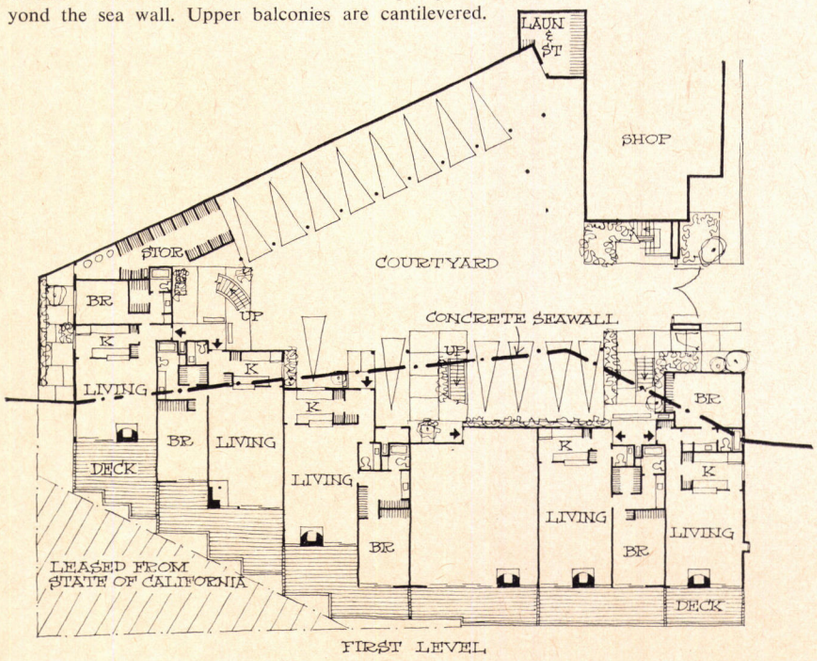
Photos: Glenn Mitchell



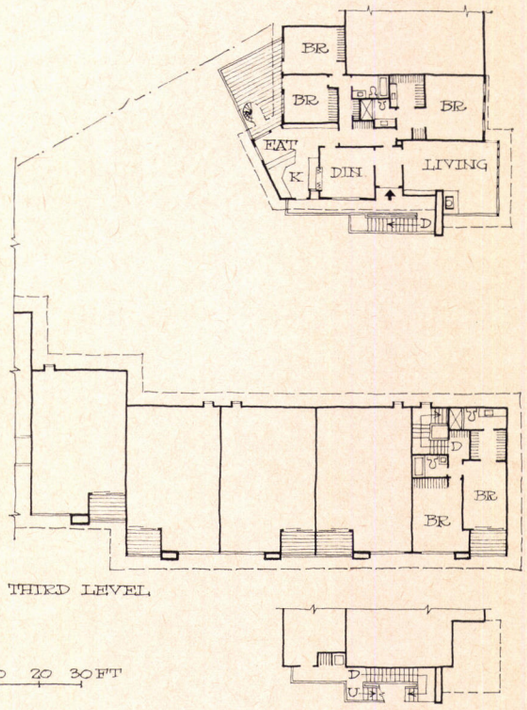
THREE-STORY BUILDING is built almost entirely over water. Bottom tier of decks serves first-floor apartments, second tier is for two-story units above and upper balconies open off master bedrooms. Owner's apartment, right, is above a remodeled two-story store.



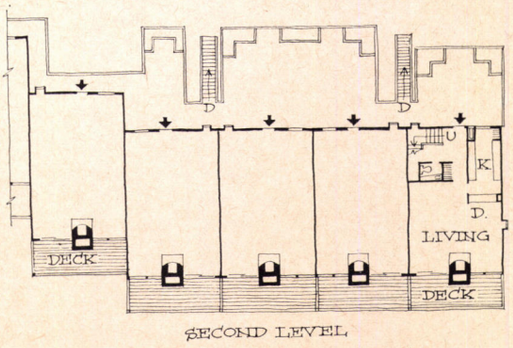
CROSS SECTION shows concrete deck on pilings beyond the sea wall. Upper balconies are cantilevered.



TRIANGULAR SITE PLAN shows part of building staggered to keep inside offshore property line. Extended party walls maintain privacy of decks.



THIRD LEVEL has bedrooms of two-story units. Owner's apartment, across courtyard, is on same level.



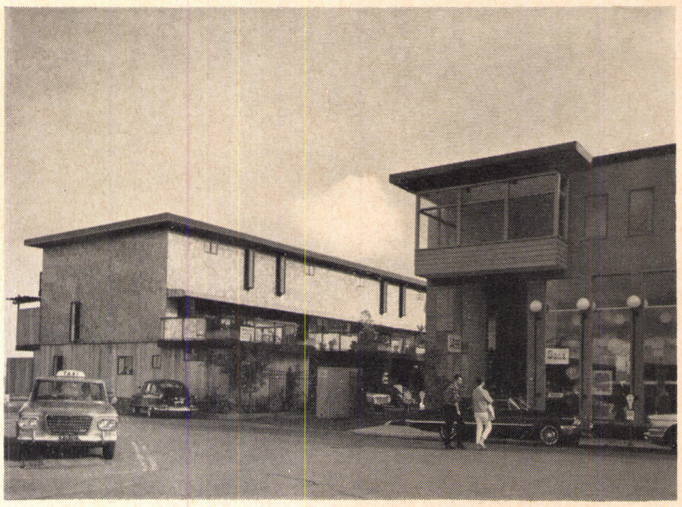
SECOND LEVEL includes entrance deck to two-story units. Living areas are on bay side.

4

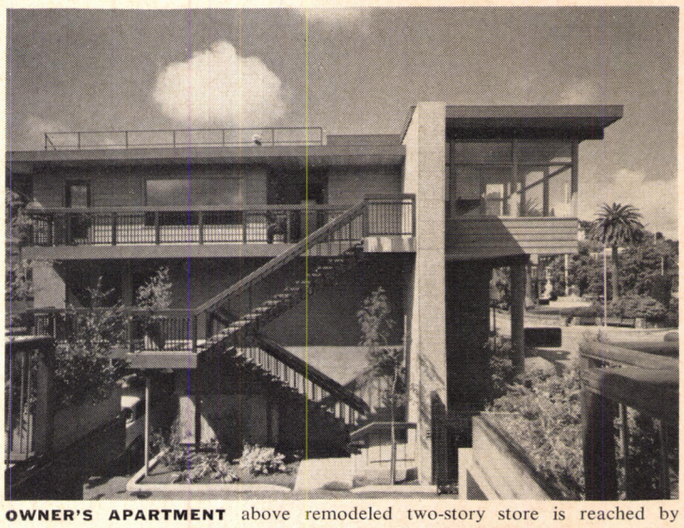
A building on stilts extends a small site out over the water

The dry-land portion of the original site was less than ¼ acre, and it was taken up by a two-story store and an old garage. Builder-Owner William H. McDevitt wanted to put 14 luxury apartments on the lot, but he also wanted to keep the store. The problem: how to find room for everything?

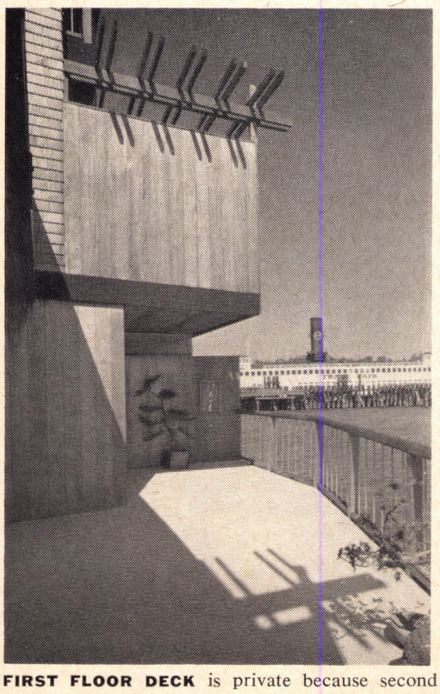
Architect Albert E. Seyranian took advantage of the fact that the property line extended beyond the sea wall and included 8,300 sq. ft. of underwater land. He designed a deck out over the water and put on it a building with 6 one-story apartments on the first floor and townhouse apartments on the second and third floors—all with a view across San Francisco Bay. The fourteenth apartment was put above the remodeled store. The old garage was torn down, and the remainder of the site was turned into a landscaped entrance courtyard and parking area. Rentals for these units in downtown Sausalito are from $295 to $475. Features include fireplaces and wide decks on the bay side of every unit.



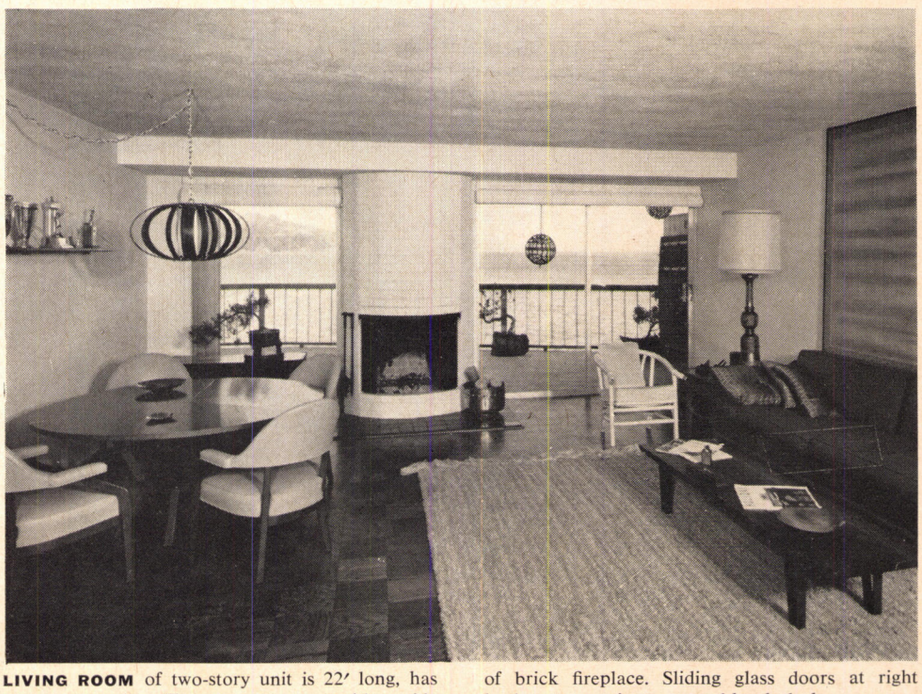
SHORESIDE VIEW of project shows main building at left, store with owner's apartment at right. Main entrance is in wooden fence in center.



OWNER'S APARTMENT above remodeled two-story store is reached by outside stairway. Railing on roof encloses a private sun deck.



FIRST FLOOR DECK is private because second floor deck, at top, has high end wall.



LIVING ROOM of two-story unit is 22′ long, has view across San Francisco Bay on either side of brick fireplace. Sliding glass doors at right lead out to private second-level deck.

Hanson Carroll

12-MAN TEAM is headed by Sumner Woodward, left foreground, and James Moreland, right. Two carpentry crews, background, add men in busy seasons.

How does a company as small as this build 62

Not only are the houses as much as 50 miles apart, but every one is a custom job. What's more, the company expects to push its volume to 100 jobs a year without adding a man.

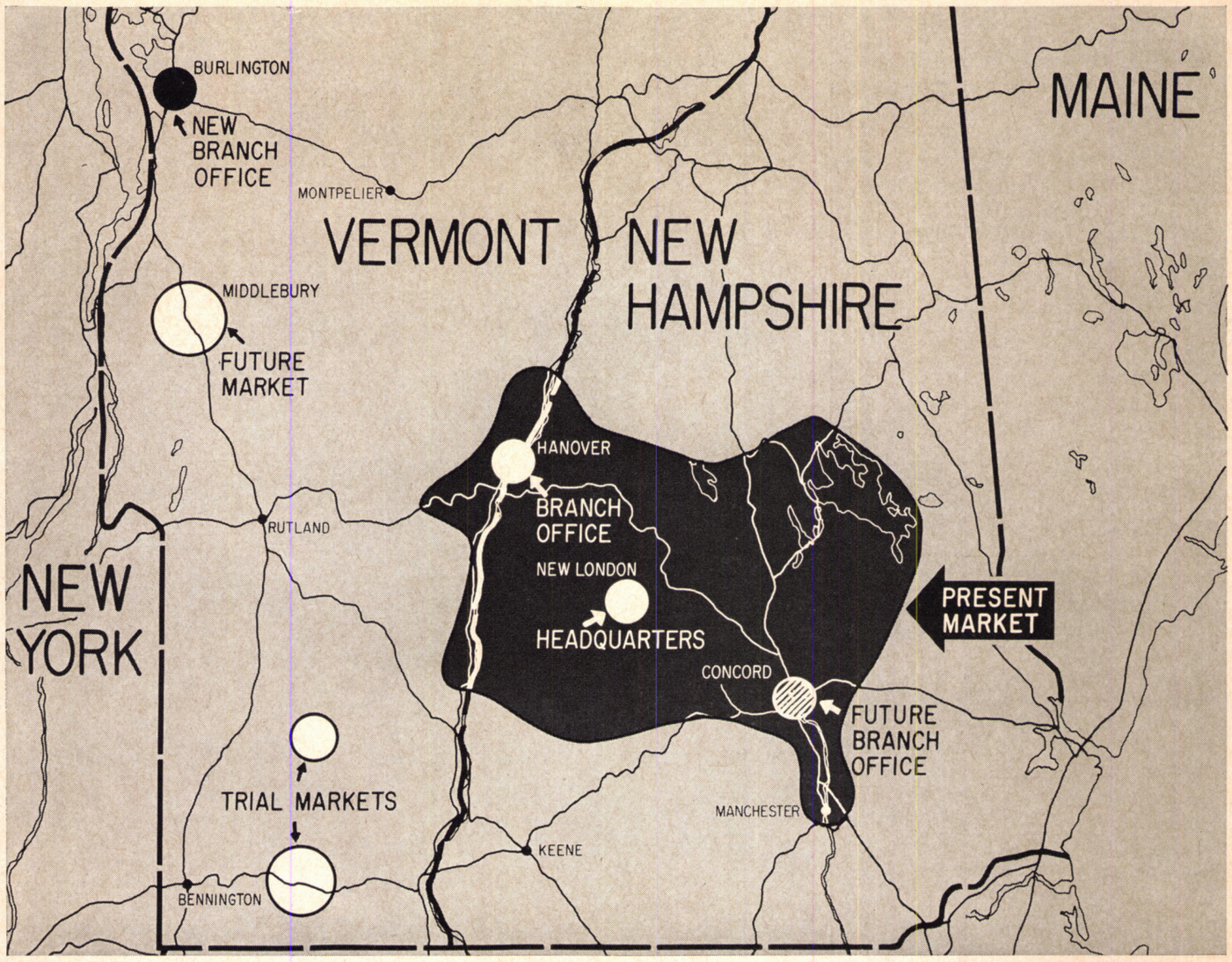
The company is Wesley B. Woodward & Son Inc. of New London, N.H. But that name is misleading: Wesley Woodward, a life-long craftsman builder, has taken a back seat, and the company is run by his son, Sumner Woodward, in partnership with a former big-builder administrator, James Moreland.* Woodward's bailiwick is construction, Moreland handles market planning and financing.

When Woodward and Moreland teamed up in January 1964, they had already decided there was only one way to grow big in their sparse New England market, where the typical homebuilder is a craftsman making a modest living with a handful of houses in one or two communities. They had to get out of the local-market rut and blanket as wide an area as possible.

Today Woodward Inc. serves dozens of communities, and its sales volume has jumped from $500,000 in 1963 to $1.2 million in 1965.

Like its small craftsmen competitors, Woodward Inc. cuts overhead to the bone. Its payroll consists of two carpentry crews ranging from five to seven men each. Their equipment is a small assortment of light tools and two half-ton trucks. Moreland's wife is the secretary, and his office is in his home. Moreland's house, like Woodward's, is also a model home. The partners also rent temporary office space in Hanover, N.H., where they are now particularly active. And they recently opened a branch in Burlington, Vt.

*Moreland was previously vice president of Frank Robino Inc., a builder in Wilmington, Del., that averaged 300 houses a year.



2,500-SQ.-MI. MARKET of Woodward Inc. covers southern New Hampshire and is expanding to northern Vermont. Southern trial markets proved soft.

houses a year in a market as big as this?

Unlike its small craftsmen competitors, Woodward Inc. is guided by a strong management hand. Items:

1. Fast-paced expansion plans are adhered to so closely that Woodward will turn down a close-in job in favor of one farther away from the home base. The object: to expose its work to another new group of prospects.

2. Cash flow strictly determines construction scheduling—work phases must be completed on predetermined dates and workmen are switched around accordingly.

3. Subcontractors—who do everything but carpentry for Woodward—get as close attention as the builder's own crews. Woodward has helped finance promising subs and keeps them up to date on new construction materials and methods.

But the most important difference between Woodward Inc. and its small craftsmen competitors is that most of its construction work is not done at the building site.

Woodward buys all of its houses in panel form from Hodgson Houses of Millis, Mass. Hodgson packages any kind of house Woodward orders and sends it along with a crane so it can be erected fast. The arrangement gives Woodward five major advantages:

1. High mobility. Five carpenters can complete the crucial job of closing a house in a day or two. And they can move from house to house on overnight notice because they don't carry heavy equipment.

2. Minimum paperwork. Instead of coping with dozens of local lumberyards, Woodward gets an entire shell from one source, pays one bill and gets it all in two or three carefully timed deliveries. So the company needs virtually no business forms.

3. Flexible scheduling. Woodward and Moreland can change construction plans daily because they don't have to coordinate countless lumberyard deliveries. They keep no scheduling board, but meet every night to review progress and draw up strategy for the following day. Job changes are simply telephoned to subs and the charges picked up later from the subs' materials-labor invoices.

4. Unlimited design. Woodward can build any kind of house in any price range because Hodgson handles the design details. As a result, the company has been moving continually into higher—and more profitable—price ranges.

5. Time for planning. Freed from extensive paperwork, Moreland keeps up on his market research. As a result, the company has concentrated on prosperous college towns like New London and Hanover and avoided nongrowth areas.

For a close look at Woodward's operation, turn the page.

continued

Even though Woodward builds only custom houses, its unit costs don't fluctuate

Partners Sumner Woodward and James Moreland can count on fixed unit costs for labor and materials because they always 1) use the same subcontractors and 2) buy their house packages from the same prefabber. The prefabber, Hodgson Houses, guarantees its package price will remain firm as long as the builder takes delivery within 60 days after ordering.

Woodward Inc.'s only cost variable is in its foundation work. On most sites the soil is hardpan or clay which, because of poor drainage, requires gravel backfill and poured-concrete foundations instead of less expensive concrete block. What's more, the sites often slope steeply, adding to the work-time required not only by the excavating and concrete subs but also by the prefabber's crane.

Woodward's partners back up their fixed costs with firm cost control. And this control starts with a persistent effort to avoid job changes—a threat to every custom builder's profits. The method: depth interviews with prospective buyers.

Every question the builders ask is calculated to reveal buyers' tastes and standards, as well as their practical housing needs. Instead of pinning their ideas down to stock plans or a pricing sheet, the builders show prospects two completely different models—Moreland's modern split-level house and Woodward's authentic colonial (*photos, right*).

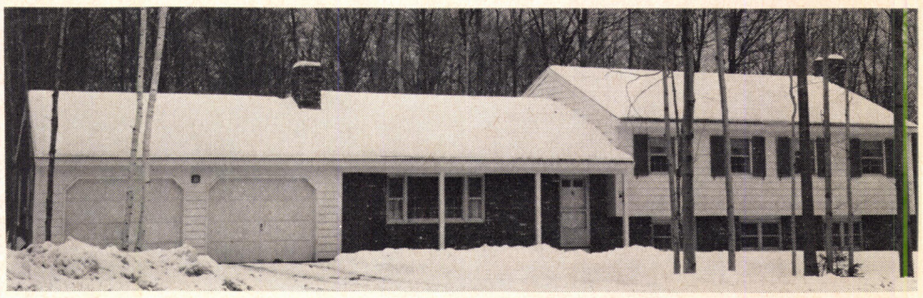
Through indirect questioning, Moreland and Woodward can often anticipate extra details the prospect is likely to want without specifically discussing them. They know, for example, whether the prospect leans toward flooring for $1.10 a sq. ft. or 35¢ a sq. ft. This careful approach to the buyer's tastes and requirements gives the partners two advantages:

1. They can write the extras into their initial specifications and help avoid future job changes.

2. They don't have to puff up their base price later on. "We don't like to nickel-and-dime the buyers," says Moreland. "By anticipating extras, we get everything into the base price. If we're high, we can take things out."

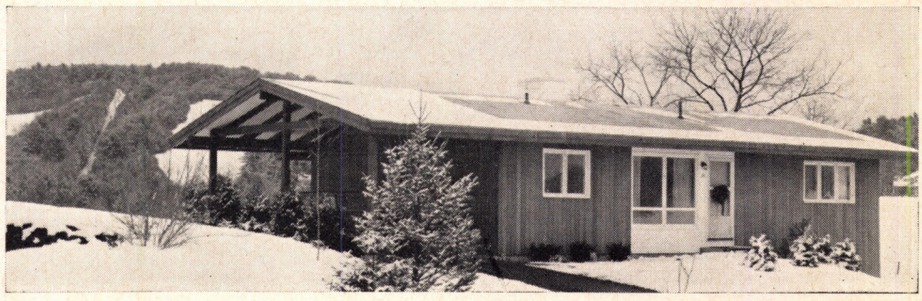
Both partners sell, and each has a different approach. Woodward's is soft-sell, Moreland's is hard-sell. If one partner fails to get the prospect's okay after two tries, the other one takes over.

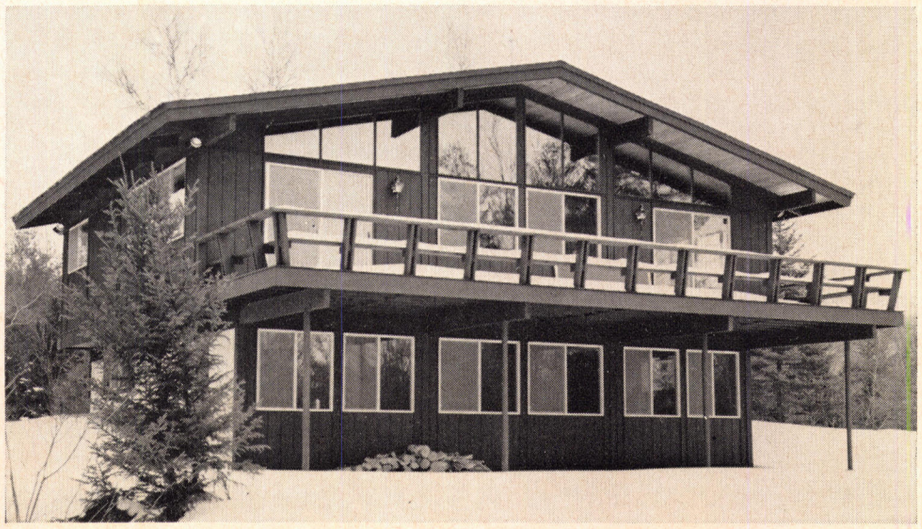
Keeping customers happy by anticipating their wants does more for the builders than eliminate job changes. It gives them a business based solely on referrals. Satisfied customers and job signs are the company's only advertising.



Woodward's houses include every design type in low to high price ranges

The partners' own houses reflect the company's unlimited design range. Sumner Woodward lives in the New England colonial shown at the top of the page; Moreland lives in the modern split-entry house shown just above. Three-fourths of their buyers want colonial design. The post-and-beam contemporary just below is a lower-cost house built near Hanover, N.H., currently one of the most active areas in the builder's sprawling market. Woodward vacation houses like the one at the bottom of the page sell for as high as $27,000 and account for 20% of sales volume.





No matter what the design Woodward can close in a house in two days or less

"In fact, we can't afford to tie up a carpentry crew for more than two days on shell erection," says Jim Moreland.

"Otherwise, we couldn't switch our crews from job to job fast enough to keep ten jobs going at once. And at our present volume, we must have ten houses under way at one time to keep our subs busy and maintain adequate cash flow."

Shell erection takes precedence over all other construction work because that's where cash flow starts.

The shell arrives at the site early in the morning on a crane-equipped truck. If it is a one-story house, it is usually assembled and dried-in by the end of the day. If it is a two-story, it is closed in by the second day (*photos, right*).

The two carpentry crews travel light, so they can switch jobs on overnight notice. All the equipment they need fits into their half-ton pickup trucks (*photos, right*). Hodgson Houses furnishes the crane—free for the first four hours, $6 an hour thereafter—to handle factory-dried-in wall sections that can be set with hammer and nails in minutes. First-floor decks are built before the walls arrive because shipping costs prohibit including them in the package.

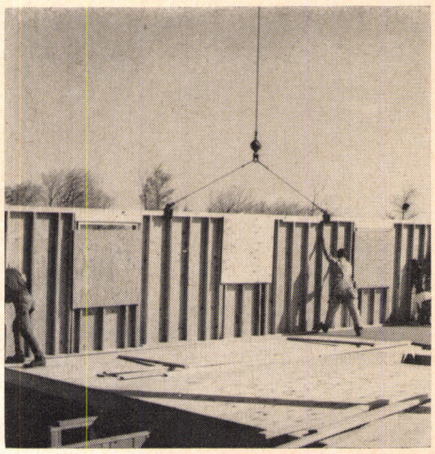
Fast shell erection and the mobility of Woodward's crews make for flexible scheduling. For instance, carpenters may be taken off finishing work in a half-completed house and sent to erect a new shell because they can be back on the first job in a day or two.

Fast shell erection also makes Woodward practically immune to bad weather. Conditions vary so greatly over the company's 2,500-sq.-mi. area that crews encounter some rain or snow almost daily.

Woodward protects its scheduling with a 30-day safety margin. Its contracts promise house completion in 90 days, but most jobs are done in 60 days. This permits flexibility in starting dates and lets houses be taken off schedule so crews can be switched to more pressing work.

Carpentry crews are supervised by company foremen, subcontractors by one of the partners, usually Sumner Woodward. "We learn the subs' weaknesses," he says. "Then all we have to do is spot-check at those critical stages in their work. And if a sub fails to leave a job in acceptable condition for the trade that follows him, he is backcharged for the extra work he causes."

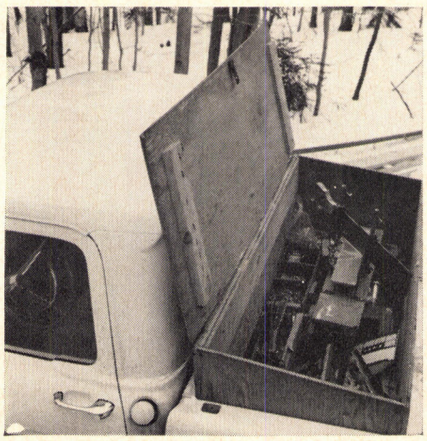
Woodward's supervision is relatively easy because most construction problems are ironed out in the prefabber's plant. *For a look at the plant, turn the page.*



Because the prefabber ships house-length sections and provides a crane . . .

Only one hour elapsed between the first photo above and the last. Hodgson Houses' crane-equipped truck arrived at the one-day-old job—first-floor walls had been erected the day before—with four full-length walls, gable ends, trusses and roofing. By the end of the day the roof was on and the house ready for mechanical work.

Hodgson ships walls up to 40′ long with primed or stained siding, windows and doors pre-installed (*see next page*). Crane time is free for the first four hours, but for a fee a late-running builder can keep the crane at his site overnight.



. . . all the builder's crew needs is a few light tools on a pickup truck

With one exception, every piece of equipment used by a Woodward crew to build a house is shown in the two photos above: a box of hand tools, a couple of ladders, roof and sidewall brackets and a newly acquired air-powered nailing gun. The exception: a water pump.

Woodward bought the two half-ton trucks to cut private-car transportation costs billed to the company by crew members. The trucks, driven by crew foremen, must travel full. Workmen are assigned to a central basing point—either Hanover or New London, N.H.—to make private-car travel charges equitable. Sometimes workmen's expenses include overnight lodging.

continued

Woodward's efficiency starts back on the prefabber's assembly line

Partners Sumner Woodward and Jim Moreland buy their house packages from the exact opposite of the one-door, one-window, one-siding house prefabricators of the 1950s. Hodgson Houses is an any-door, any-window, any-siding prefabber. For example:

1. Hodgson's standard material schedule gives Woodward and Moreland as broad a choice as they would find in a well-stocked lumberyard. Examples: *interior doors*—flush Lauan, flush birch, six-panel pine, louver, pocket, sliding and bifold; *siding*—6″ and 10″ clapboards, hand-split shakes, cedar shingles, Texture 1-11, plywood-and-batten and V-joint redwood.

2. Hodgson's delivery schedule provides the same convenient service offered by local lumberyard prefabbers. Woodward, for example, takes its two-story houses in three loads—a floor at a time, and interior partitions and trim after the shell is finished.

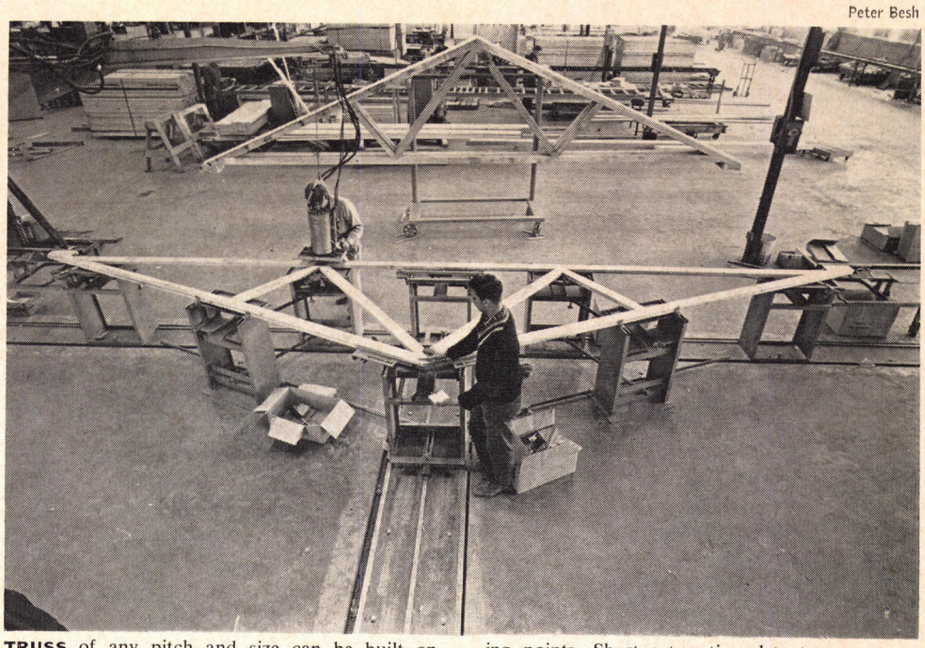
3. Hodgson combines the variety and convenience of a lumberyard with the mechanization of a manufacturer. Its broad inventory of materials is put together by machines that offer the highest speed feasible without compromising flexibility (*photos*). And the materials are assembled as completely as possible. Hodgson's wall panels include everything but insulation and drywall and are made in full house lengths and widths. Except for trusses, the rest of the package is shipped knocked-down.

4. Hodgson can adapt its assembly line to almost any kind of house. In three years Woodward has been forced to turn down two houses, not because Hodgson couldn't prefab them, but because they couldn't have been shipped. In each case the prospective buyer wanted 10′- or 12′-high walls; Hodgson can't transport walls higher than 8′ because of highway restrictions.

What about code problems? They are rare because Hodgson's construction is entirely conventional—only the method of erecting its houses deviates from the norm. So Woodward always wins the occasional code hearings it encounters in small communities getting their first taste of sub-assembled housing.

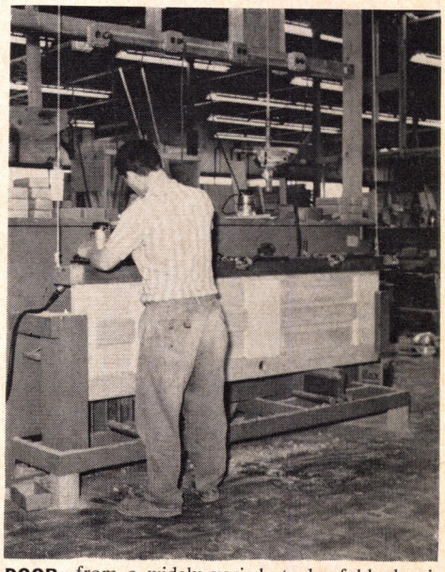
Hodgson Houses, founded in 1892, is an old prefabber that recently began acquiring a new look. Long known for its colonial designs—which, in fact, account for 75% of Woodward's volume—the company has now branched out to post-and-beam vacation houses. This expansion was made possible by the prefabber's move a year-and-a-half ago from an obsolete shop in Dover, Mass., to a modern 72,000-sq.-ft. plant in Millis, Mass. Now Hodgson has two assembly lines—one for conventionally framed houses and one for post-and-beam.

Peter Besh



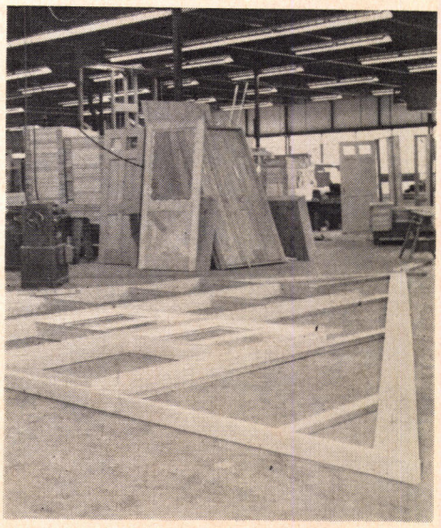
TRUSS of any pitch and size can be built on jig with track-mounted clamp tables at fastening points. Short setup time lets two-men produce from 125 to 175 trusses a day.

WINDOW is put together when needed from unassembled stock containing all design types.



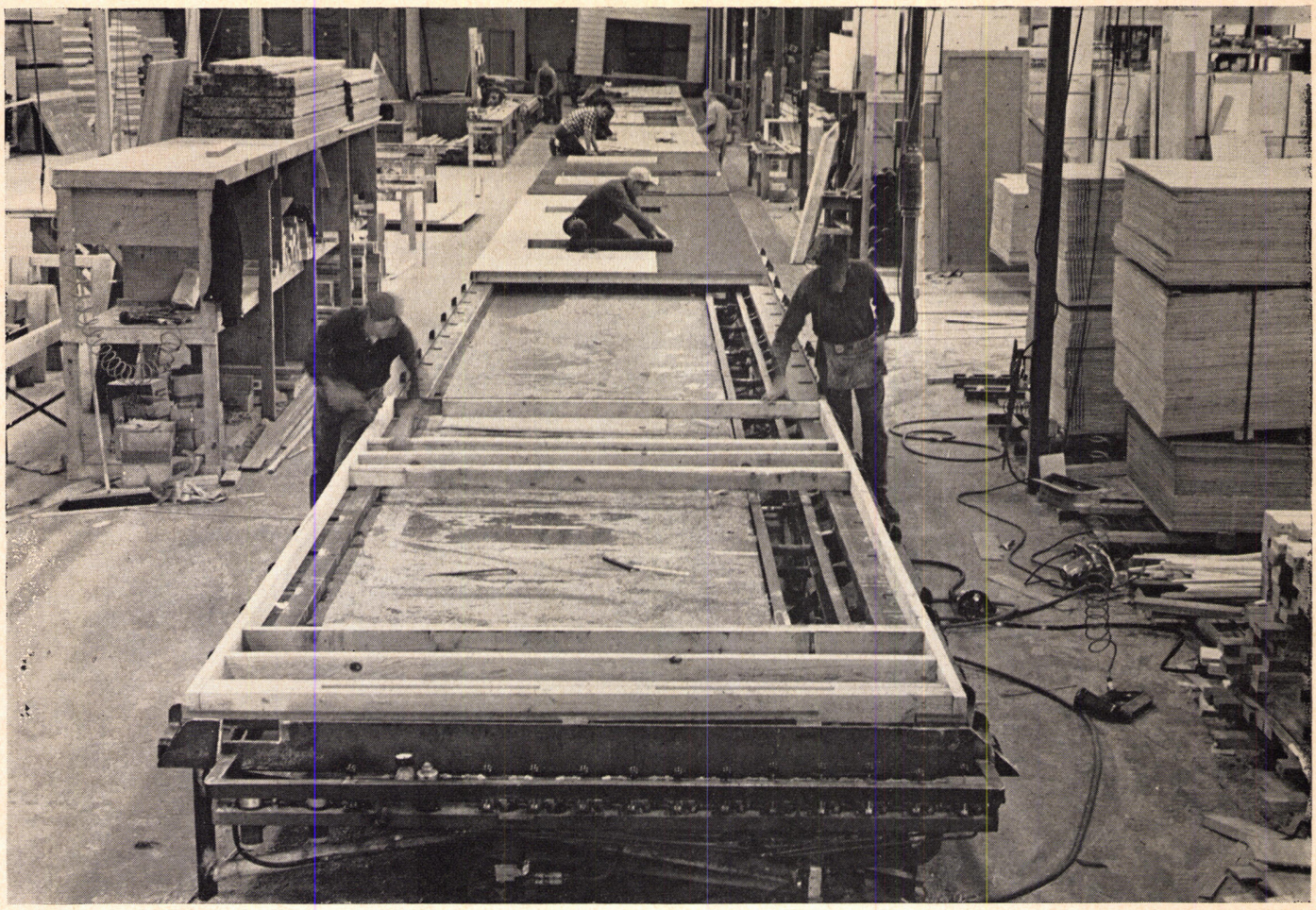
DOOR, from a widely varied stock of blanks, is fitted with lockset and hung with portable tools.

GABLE END—which can be any size and shape at Hodgson—calls for special siding operation.



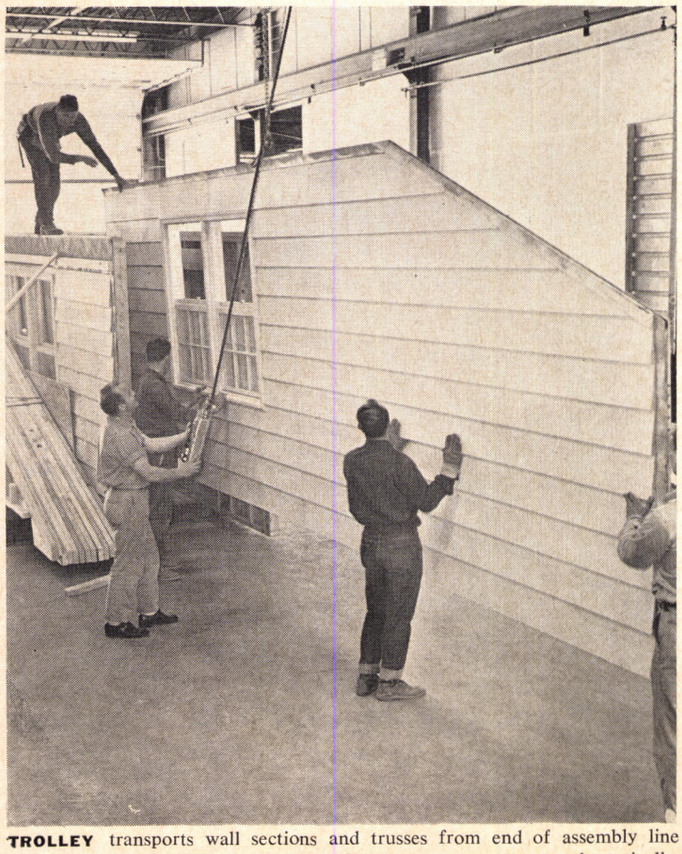
A-FRAME is laid out in plant's vacation-house area, which is divorced from main assembly line.

Peter Besh



FRAMING starts at near end of Hodgson's push-button conveyor jig, moves through a series of work crews and emerges at far end with siding, windows and doors. Wall assembly line is flanked by precut parts located at points of use. Framing is cut by semi-automated multi-cut saw near start of line.

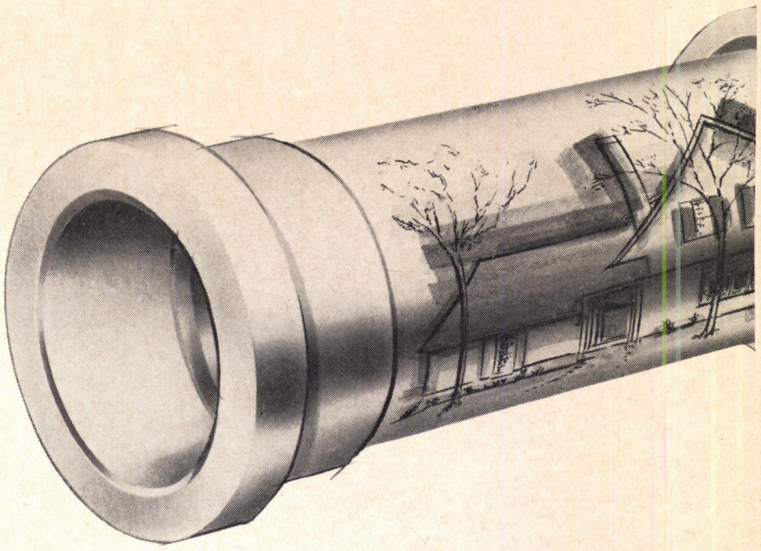
Peter Besh



TROLLEY transports wall sections and trusses from end of assembly line and paint department to loading bay. Components are set on truck vertically.

Fay Foto

CRANE is part of rig that transports house package to building site. Hodgson gives new dealers free supervision when erecting their first package.



sewage treatment

Why homebuilders

Local authorities all over the country are putting new pressure on builders who solve sewage problems the easy way. And most of this pressure is a direct result of the U.S. government's stern new program to eliminate water pollution.

President Johnson spelled out the program two months ago in a special message to Congress. Said Johnson: "We must combine all the means at our disposal—federal, state, local and private—to reduce the pollution of our rivers."

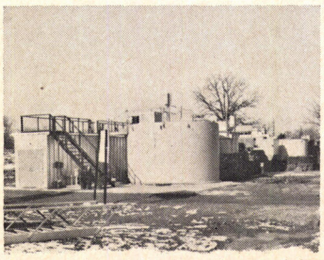
So the antipollution program means centralization. Specifically:

1. Cities and towns—and whole river basins—will be organized into huge sewer districts so that tough, new sewage treatment standards can be effectively enforced. Hearings have already begun in New York State and the Great Lakes region.

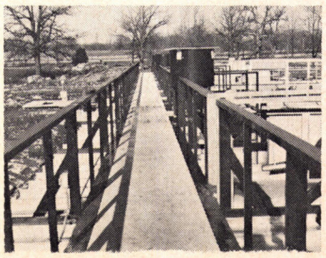
2. All U.S. water-pollution programs will be pulled together under one agency in the Interior Dept.—probably within 60 days. Until 18 months ago, preventing water pollution was the neglected responsibility of the Health, Education and Welfare Dept.

Medium-size homebuilders in the Northeast will be among the first to feel the new pressure. For years they—like many other homebuilders across the country—have solved their sewage problems with septic tanks. Now, as more and more local officials receive federal and state money to develop sewer systems, septic tanks are out. To a community trying to implement a brand-new sewage treatment plan, septic tank is a dirty word.

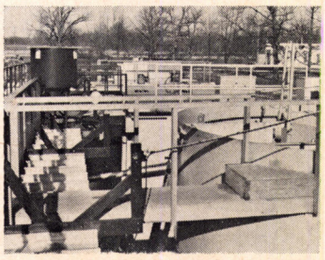
Federal money backs this field test of packaged sewage plants



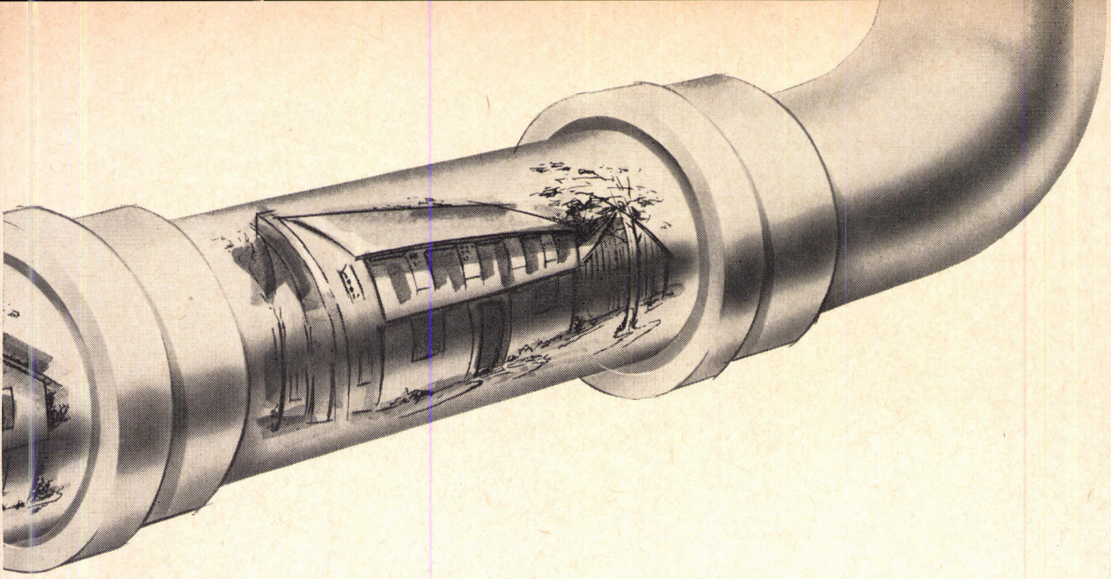
Control lab, left, for plants, right.



Walk on lab roof for viewing plants.



Steel-tank plants lined up for tests.



won't be able to duck the problem any more

What can a builder do in the face of this new pressure?

Probably the best answer—for homebuilders and communities alike—is the small-scale, packaged sewage-treatment plant. After 20 years of only scattered acceptance, the packaged plant is suddenly getting close attention because it provides the fastest way to meet the government's new standards.

For the first time, the government is setting sewage-treatment standards for the nation

States have always written their own standards, but too often these were inconsistent and incomplete. Now the states have until July 1967 to rewrite their standards—and the federal government reserves the right to amend them. (This is not unlike the government enforcing a national building code in every state.)

The writing of standards is only one example of federal intervention. Items:

1. The Federal Water Pollution Control Administration—the agency that will be moved into the Interior Dept.—has been influencing sewage policy for the states for two years by organizing centralized sewer districts.

2. The U.S. Public Health Service has been pressing for an immediate end to pollution in key river basins, such as New York's Hudson River Valley.

Most important, the government is supplying the means—money—to make these efforts work.

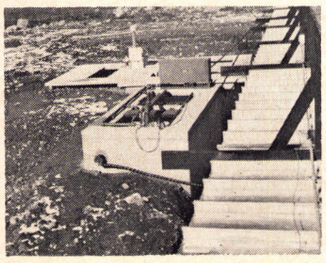
For the first time, the government is providing millions for nationwide sewer construction

President Johnson asked Congress this year to allocate $150 million to build sewage systems—$20 million more than in any previous year. And this is only the beginning; according to a Water Pollution Control spokesman, next year's request will be about $180 million. By 1970, as much as $1 billion may be requested for sewer construction.

On top of his $150 million request, the President has asked Congress for $50 million in "super grants" to be applied to whole river basins. And to make larger grants available to smaller projects, the President proposed an end to current grant ceilings for single towns ($1.2 million) and regional sewer districts ($4.8 million).

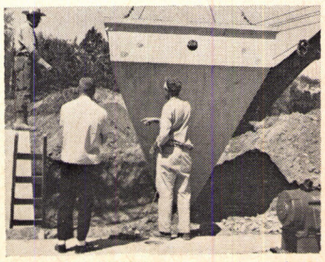
Now a community has no choice. Either it takes 60% of the money it needs for sewer development from government funds, or it risks court action for ignoring the government's pollution-abatement standards.

Court action is bound to increase because the government now has a new breed of no-nonsense enforcement agents.

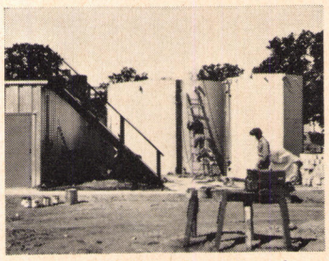


Concrete-tank plants set below grade.

Unloading a steel-tank sewage plant.



Setting a 10,000 gal.-per-day plant.



Erecting a 16,000 gal.-per-day plant.

continued

For the first time, the government is turning to engineers to enforce sewage treatment rules

Until 18 months ago, health officials—usually doctors—had full control over antipollution programs.

But the health officials failed in two ways to make the programs work:

1. They often approved septic tanks in favor of packaged treatment plants simply because they didn't understand how the plants worked.

2. They were lax enforcers. Example: In 1962, irate residents of a small New Jersey town watched their septic tanks overflow for several weeks before a state inspector arrived.

Now, all across the country, water-pollution agencies are being turned over to engineers and conservationists.

Already, the shift of power has had these effects:

1. The engineers are demanding stiffer law enforcement. Example: coupled with the President's request for more antipollution aid was a demand to allow both the federal government and private citizens to haul offenders into federal court.

2. The new engineer-dominated agencies are most effective enforcers because they are larger and more centralized. Example: New York's water pollution bureau has grown from 30 to 100 members in the past year, and it expects to conduct 240 pollution hearings this year—about 50 more than in 1965.

3. The more powerful agencies are sharpening local regulations. Example: in Indiana—and in at least nine other Northern states—a builder of a 50-home subdivision is forced to build his own treatment plant unless he can tie into a city system. The fees he can charge homeowners are set by the state and—in Indiana at least—the legislation governing this has been cleaned up so there are no loopholes.

How good are the plants? Which one should a homebuilder buy? *The government is helping establish answers to these questions.*

For the first time, the government is backing research on low-cost sewage-treatment systems

President Johnson asked Congress to give $20 million to the study of new antipollution technology. A system from Holland is being tested, and one recently introduced in Mexico has been reviewed in a city planning publication (*see p. 123*).

The government realizes that economical interim solutions are needed to bridge the five-year period before the federal sewer-construction program can get rolling. One of the solutions it is banking on is the packaged treatment plant. Reasons:

1. The units provide immediate sewage treatment because they are preassembled in a factory and can be set up at the treatment site in a few days.

2. Their cost compares favorably with septic tanks even in small tracts.

3. They can be hooked up to larger municipal sewage-treatment plants easily and inexpensively at a future date.

Last year the federal government tacitly endorsed packaged treatment plants by giving $331,275 to the National Sanitation Foundation for a three-year field study of about 20 of the units (*photos, p. 118*). The grant marked the first time the government has backed research on any but full-scale, built-on-site plants.

The field study, being conducted in Ann Arbor, Mich., is a measure of the sanitation engineers' growing influence as well as of the small-scale plants' increasing acceptance. It comes after years of engineers urging the government to help develop universal criteria for evaluating the plants' performance. When the study is completed in 1968, engineers will have the necessary standards to help pick the best plant for a particular job.

Packaged plants come in all sizes and shapes, but basically they are all quite similar. A summary of how they work and how much they cost starts at the top of the next column.

Buying a packaged plant is

Maintenance—as much as health officials' skepticism—has long been a major deterrent to the acceptance of packaged sewage plants. Once a plant is installed, the builder cannot just walk away from the tract after the last house is sold. He must provide for the plant's future operation in one of these three ways:

1. *Operate the plant himself* according to state and county sanitation rules.

2. *Set up a private utility by floating a bond issue* (a procedure currently permitted in nine states).

3. *Turn the plant over to a state or county utility,* if the builder is lucky enough to find one that will take it.

As packaged plants gain wider acceptance, state and county authorities will have to become more willing to add them to their own utilities' service loads. Right now, the best way out for many small builders is to set up a private utility to handle more than one plant (units are added on as successive tracts are built). But most small builders could only do this as a cooperative venture because a private utility usually needs a service load of 200 houses to break even.

Single-house packaged plants offer small builders another way to avoid the problems of maintenance. The responsibility for maintaining these units is basically the homeowner's, although local authorities usually insist that a contract be set up with a local maintenance company, which will be responsible for the plant's operation.

Whether to install a central plant or a single-house plant is not always a black-and-white decision. For up to 25 houses, the single plants are economical. Beyond 50 houses, central plants become feasible. But between 25 and 50 houses there is a gray area in which either type of plant may turn out to be best.

By and large, however, the cost of a packaged treatment plant is easy to figure because it is based almost entirely on capacity and service load. Available plants range in capacity from 1,000-gpd (gallons per day) for a single-house unit serving six persons, to 300,000 gpd for a community-size plant serving 3,000 persons. (Some packaged plants can handle as much as 500,000 gpd, but plants larger than that are constructed in the field.)

The per-house price of a one-house plant can be ten times greater than that of a central plant. According to one manufacturer's price list, the base price of a 1,000-gpd plant is $750; by the time it's shipped and installed, the cost reaches about $1,100. A 300,000 gpd plant, according to another manufacturer's price list, costs $98,400 installed. Cost per house for the big plant—assuming a service load

easy—the problem is, who's going to take care of it?

of 760 houses—is $130, or almost $1,000 less than the small plant.

But this $1,000 difference may be justified. For example:

1. If a builder is putting up five high-priced houses in a community that forbids septic tanks yet has no sewage plants he can hook onto, individual plants are probably the cheapest way out.

2. The cost of a one-house plant is not a great deal more than an adequately designed septic tank. The cost of a 1,000 gpd septic tank with a sufficient tile field is $600 to $700.

While single-house plants are seldom used for tracts of more than 50 houses, there are exceptions. One builder used 120 of the units in a project on hilly terrain. His reason: a central plant would have required several lift stations and thus would have been more expensive. On the other hand, central plants sometimes prove economical for as few as ten houses.

Just how small a packaged plant can be is a bone of contention among manufacturers. All agree that the larger the plant, the more economical it is to install and operate. Many disagree as to whether a plant can be scaled down to single-house size without a disastrous loss of efficiency. But despite the controversy, at least two of the major packaged-plant manufacturers are producing one-house units.

Controversy within the packaged sewage treatment plant industry is not uncommon. The manufacturers have no strong industry association and, as a result, they have no generally accepted product standards. But most of them are willingly supporting The National Sanitation Foundation's three-year field study at Ann Arbor by contributing plants and paying engineering and transportation expenses.

The manufacturers are looking for two benefits from the Ann Arbor test:

1. Nationally publicized evidence that their plants provide adequate treatment.

2. Performance standards to help both local engineers and the manufacturers determine how the plants should be designed.

"Give us a specified degree of treatment, and we will deliver it," says one manufacturer. At present, the required degree of treatment is up to individual health authorities, and is based on their own independently calculated stream requirements—e.g., the degree of waste they have decided their local streams can bear.

One thing the manufacturers do agree on is basic mechanics. All of the small- to medium-size plants use one of these two processes:

1. Extended aeration, in which air is forced through the sewage for a long period of time to oxidize it.

2. Contact stabilization, in which raw sewage is mixed with partially treated sewage to speed absorption of solids. This process generally proves more economical than extended aeration when capacity exceeds 30,000 gpd. Some big plants convert to extended aeration for slack periods.

The table below presents a selection of packaged sewage treatment plants offered by six major manufacturers that account for the bulk of today's sales. *To see how the systems work and how they're installed, turn the page.*

Guide to packaged sewage treatment plants

This selection of plants from six manufacturers shows the range of capacities available, from 950 gpd (serving one house) to 500,000 gpd (serving 1,250 houses.) BOD (biochemical oxygen demand) loading is based on the general assumption that in private homes, an individual's daily BOD contribution is .17 lbs. Only a small sampling of the manufacturer's full lines are listed, and some of them are so flexible in design that the BOD loading presented here is just an average—it could be more or less, depending on a tract's specific requirements.

MANUFACTURER	MODEL NAME	TYPE	COMPONENTS	CAPACITY GALS. PER DAY	LOADING BOD. LBS. PER DAY	MOTOR HP.	SQ. FT. AREA REQUIREMENT
Avco Corp., Williamsport, Pa.	Spencearator	Aeration-recirculation	Compartmented tank, circulator, heating element	950	0.8	1/6	24
				1,350	2.0	1/3	36
				2,000	5.2	1/3, 1/6	48
Yeomans Brothers Co., Melrose Park, Ill.	Yeowave	Extended aeration	Raw sewage screen, aeration tank and aerator, final settling tank with sludge return pump	1,500	4.0	3/4	52
				3,000	10.0	1 1/2	76
				6,000	19.0	2	146
				9,000	30.0	5	181
				12,000	38.0	5	233
				15,000	50.0	7 1/2	291
				18,000	60.0	7 1/2	358
				20,000	66.0	7 1/2	393
Smith & Loveless, Lenexa, Kans.	Oxigest	Extended aeration	Aeration tank, settling tank, non-mechanical surface skimmer	2,000	4.0	1	80
				4,000	8.0	1	128
				6,000	12.0	1 1/2	176
				8,000	17.0	1 1/2	216
				10,000	23.0	1 1/2	264
				21,000	68.0	2	448
				31,000	124.0	3	648
Amcodyne & Co., Lorain, Ohio		Extended aeration	Compartmented tank with or without sludge tank	5,000	12.5	2	144
				15,000	37.5	3	312
				25,000	55.0	5	432
			Bolt-together tank	30,000	90.0	5	621
				40,000	120.0	5	759
				50,000	150.0	5	966
Gulfstan Corp., Miami, Fla.	Bio-Con	Contact stabilization	Contact tank, aerobic digestion tank, re-aeration tank, sedimentation tank, spray water system	20,000	34.0	3	330
				40,000	68.0	5	567
				60,000	102.0	7 1/2	714
				80,000	136.0	7 1/2	966
Dorr-Oliver Inc., Stamford, Conn.	CompleTreator	Contact stabilization or extended aeration	Compartmented tank, aeration grids, spray system, scum remover, standby sludge pumps and aeration fans	100,000	210.0	10, 3 1/2	2,750
				200,000	420.0	20, 4 1/2	4,550
				300,000	630.0	25, 5	6,000
				500,000	1,050.0	40, 7 1/2	8,550

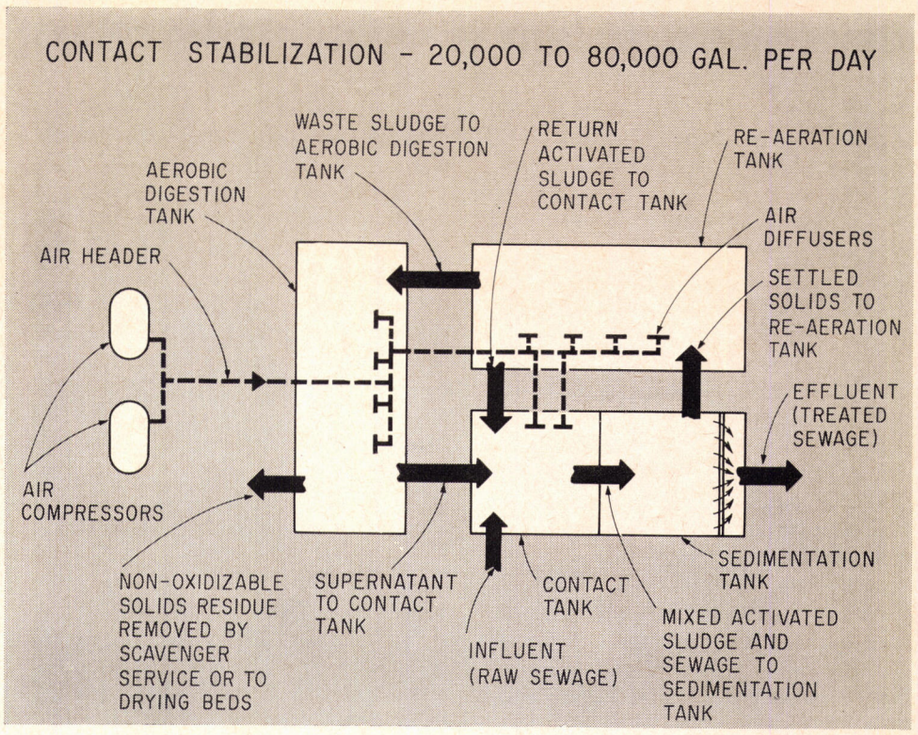
continued

Large treatment plant combines four bolt-together steel tanks

Each tank performs a step in the process of contact stabilization:

1. Raw sewage enters the contact tank where it is mixed with a biologically active and well-aerated sludge which absorbs organic matter and thus removes BOD.
2. Treated sewage flows to the sedimentation tank where sludge is settled out and the clarified effluent is discharged.
3. Settled sludge is transferred to the re-aeration tank for further aeration before being returned to the contact tank.
4. Excess waste sludge is periodically transferred from the re-aeration tank to the aerobic digestion tank where it is oxidized to ash-like residue.

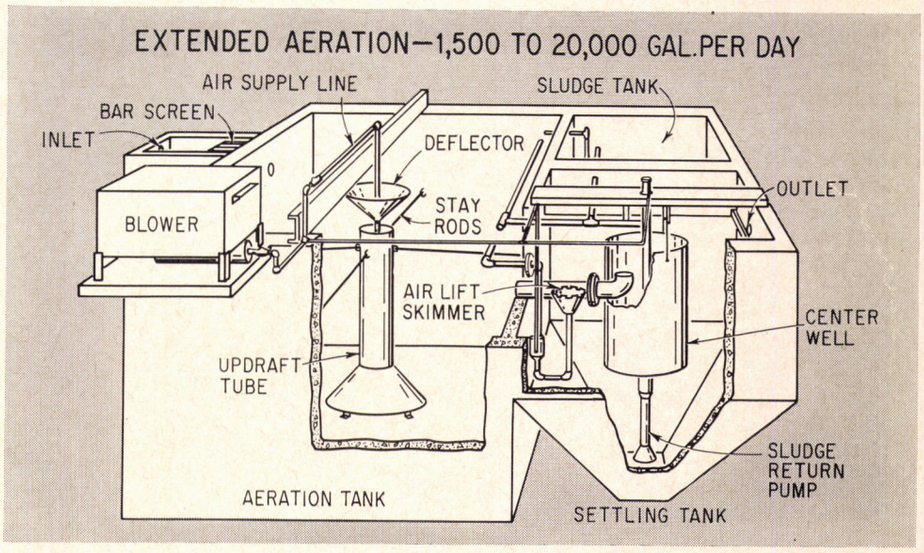
Its capacity range of 20,000 to 80,000 gpd means the plant can serve from 40 to 160 houses, based on an average of five persons per house. The tanks can be installed either above or below grade. Manufacturer: Gulfstan Corp.



Medium-size plants come in a single concrete or steel tank

Compartments within the tank separate the two steps of sewage aeration and sludge settlement. Aeration methods vary: the plant at the right (by Yeomans Brothers) uses surface aeration; the plant at far right (by Smith & Loveless) uses subsurface air diffusion. Methods of transferring sludge and removing scum also vary.

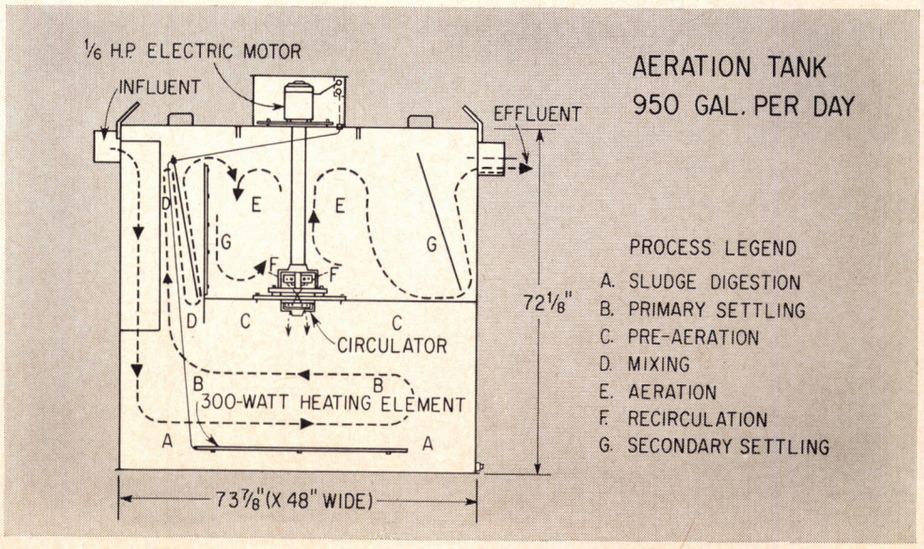
These extended aeration plants range in capacity from 1,500 to 35,000 gpd. Prices —minus installation cost and contractor's profit—range from about $4,000 to over $20,000 delivered. Because of shipping restrictions, the plants are usually delivered with blower-motor housings and electrical control enclosures demounted.

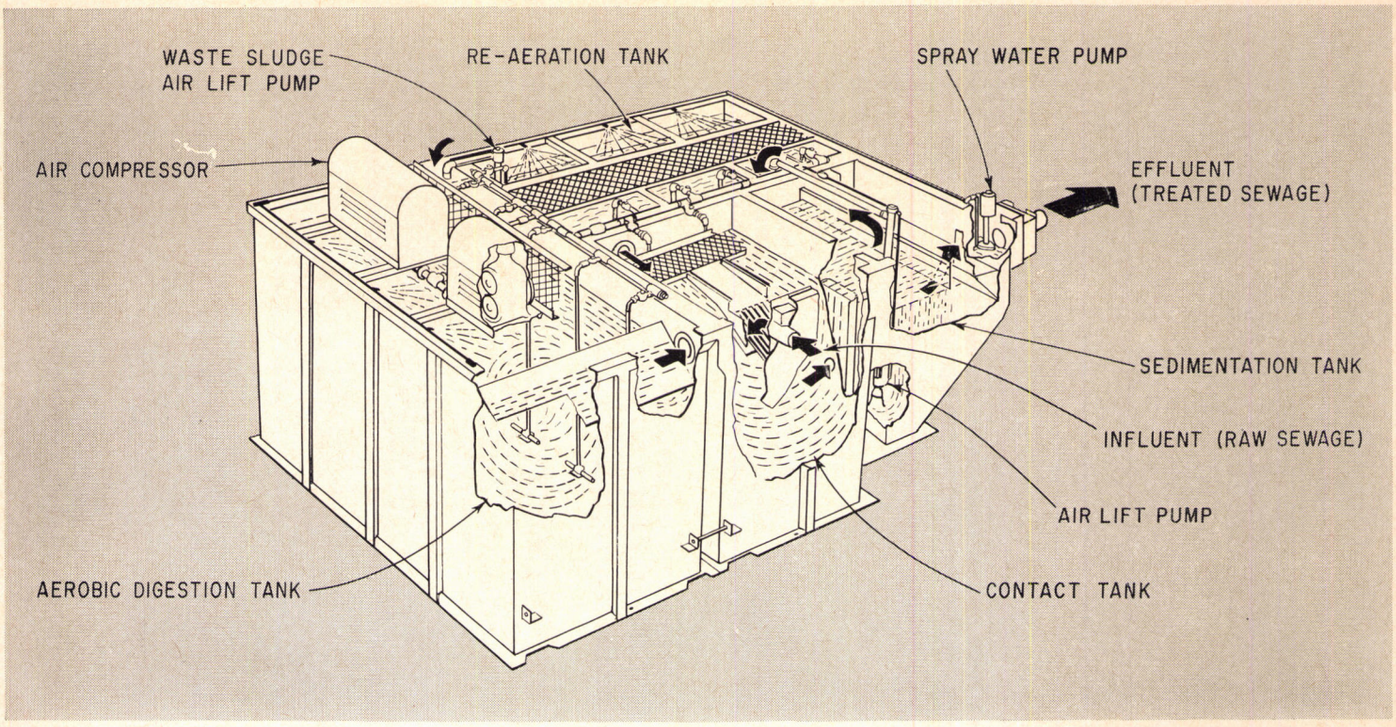


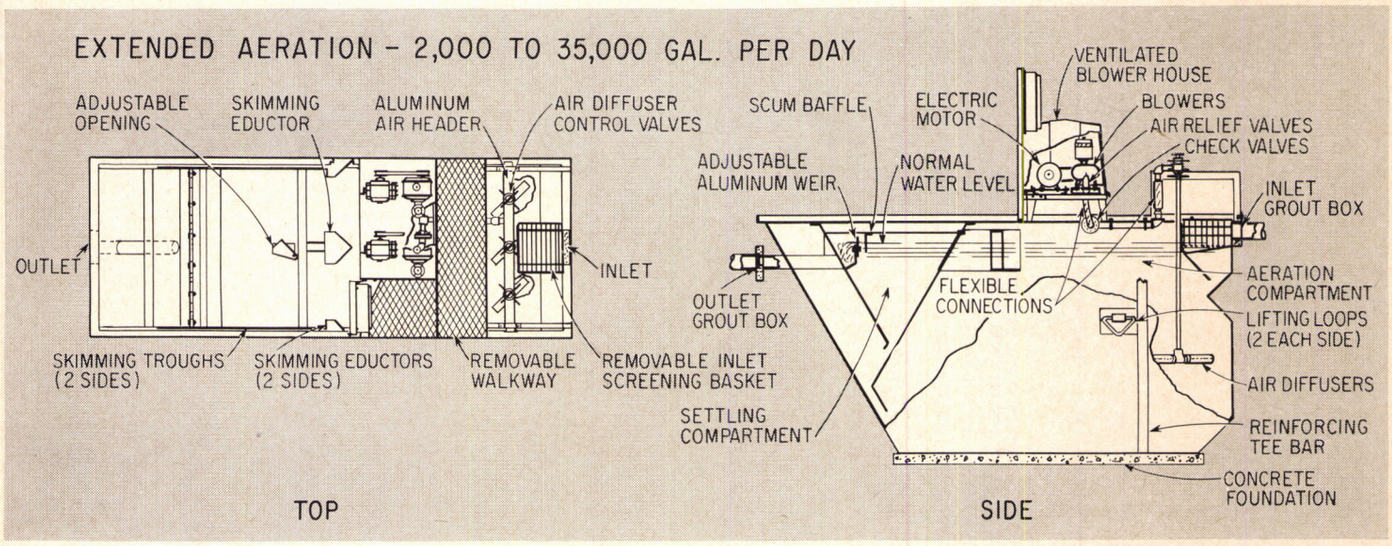
One-house plant offers one-day installation and piping hookup

A simple wiring connection—to power a 1/6 hp motor and a 300-watt heating element—puts the plant into operation. The motor runs a patented aerator-recirculator that supplies tiny air bubbles and recirculates a controlled amount of sewage for further treatment and more complete digestion. Sludge is digested by intermittent use of the heating element.

A builder needs at least one accessory for the plant: an influent well fitted with a screen to keep non-sewage solids from entering the plant. If the plant is discharging into a stream, it might also need a chlorinator and a sand-bed filter. Manufacturer: Avco Corp







Vacuum systems could take sewage treatment a step further—by using much less water

Specifically, a treatment system operated under vacuum uses one quart of water per toilet-flush instead of the conventional five gals. Such a system is currently being used in Sweden, where it was developed, and in Mexico City. It is patented and carries the trade name, "Vacumatic System."

The system saves water because:

1. Dual piping keeps water from toilets separated from shower, laundry and kitchen waste water. The latter can be easily treated and reused for irrigation and public services. The Typical U.S. treatment system retrieves no household waste water.

2. Rotary pumps create a vacuum for toilet water so that sewage can be collected in concentrated form through 1½″ and 2″ soil pipes rather than conventional 4″ and 6″ pipes. U.S. systems operate in the opposite way: they treat sewage by first diluting it.

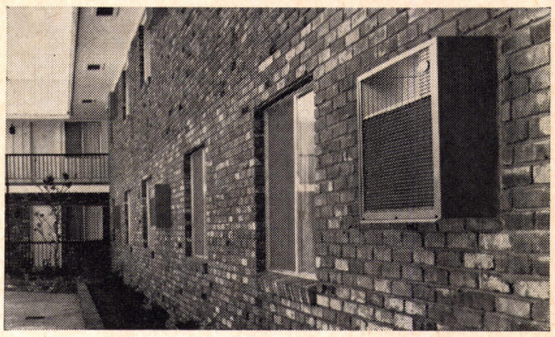
According to a Mexican engineer's report published by the Urban Land Institute (*Urban Land,* Sept. 1965), the system produced these savings in a Mexico City apartment project:

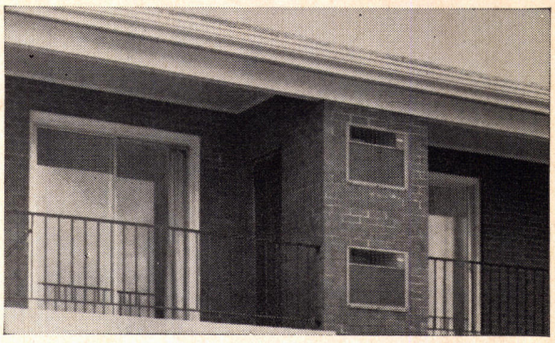
1. Daily water consumption per person is 40% less—30.5 gals., compared with 50 gals. under a conventional sewage disposal system.

2. Polluted water has been reduced 75% by separating the toilet waste.

3. Irrigation water supplies have been increased 300%.

There could be problems in applying the system to U.S. households, however, because it would have to cope with additional refuse—from detergents and garbage grinders—that Mexican households don't produce.





Flush inside
...or flush outside!

Each of these Carrier condensing units powers a central ducted heating and cooling system—a system that is ideal for garden-type apartments.

Why? It gives the tenant or owner control of heating and cooling—with quiet movement of clean, conditioned air—to each room all year long.

It offers low first cost, takes up no land space and no floor space, either. It teams with a gas- or oil-fired furnace, or with an all-electric fan-coil unit indoors.

And it offers two other design options:

(1) Like the upper pictures, where it can't be seen from the inside at all. (It slides into a wall sleeve from the inside—a panel hides it from view.)

(2) Flush against the outside wall, where it projects only a few inches into a closet or utility room.

Other parts of this Carrier system?

Refrigerant tubing with quick-couples at both ends for a fast, clean connection to fan-coil or furnace.

An all-electric fan-coil that can power air through long duct runs . . . does it quietly from any spare space—above a closet, in a furred-down ceiling, a crawl space or attic.

Only 13⅛ inches high, it heats with electric strip heaters or a hot water or steam coil.

Or, Carrier furnaces located in closet, crawl space or attic can provide heat and air movement.

Details? Your Carrier Dealer will give them to you. And handle everything to do with heating and cooling: duct design, equipment location, wiring, controls—right through start-up. And back it up with service.

You'll find Carrier Dealers in the Yellow Pages. Carrier Air Conditioning Company, Syracuse, N. Y. 13201. Represented in Canada by Carrier Air Conditioning (Canada) Ltd.

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HOW MANY BUILDERS DO YOU NEED TO SELL?

In 1949

Bureau of Labor Statistics' census showed that the 22,750 builders of 5 or more houses a year built 79% of all dwelling units.

In 1954

Alfred Politz' study for Better Homes & Gardens showed that 20,735 builders of 5 or more houses a year put up 92% of all housing.

In 1957

Stanley Edge and Associates' survey of builders and contractors in Allegheny County, Pa. showed that builders of 5 or more houses a year built over 90% of the housing in that county.

In 1958

Wichita, Kansas Home Builders Association's statistical analysis showed that the 107 builders of 3 or more houses built 96% of all houses in the area.

Dun & Bradstreet found that builders of 3 or more houses accounted for 90% of all the one-family houses in metropolitan Dayton, Ohio.

In 1959

Professor Burnham Kelly, Associate Professor of City Planning at M.I.T., said this: "One percent of all the builders build one-third of all houses. The first 10% build two-thirds; and the other 90% build only one-third. Twenty years ago, builders of 5 or more houses a year were already building two-thirds of the houses; ten years ago this climbed to three-quarters; and last year it was nine-tenths."

In 1960

National Association of Home Builders' survey of its builder members showed that those building 5 or more houses did 99.5% of the total production by NAHB builder members.

In 1964

American Builder reported that 17.6% of their subscribers accounted for 83% of all the units built by their readers.

Practical Builder's census of builder activity showed that 19.7% of their subscribers account for 81.8% of all units put up by their readers.

In 1965

Distribution of **Sweet's Light Construction Catalog File,** which goes to all locatable builders of 5 or more houses or over $100,000 worth of such construction, was 25,000.

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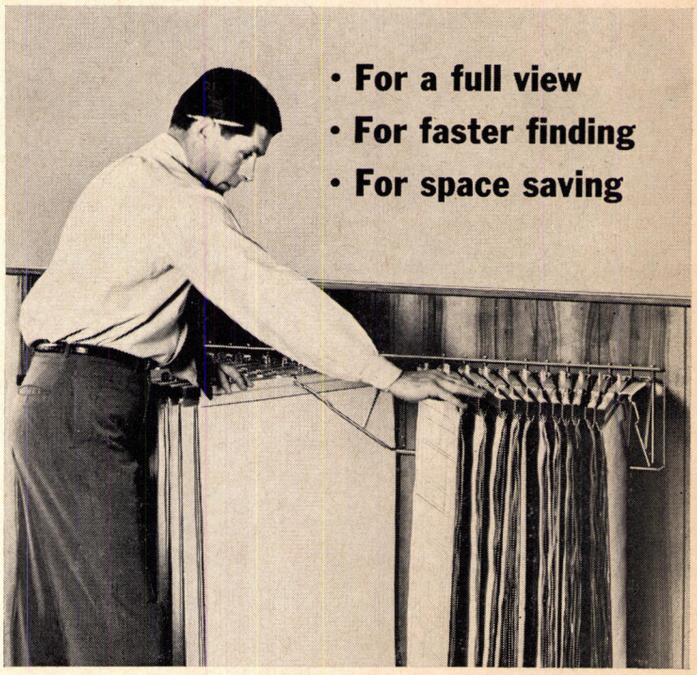

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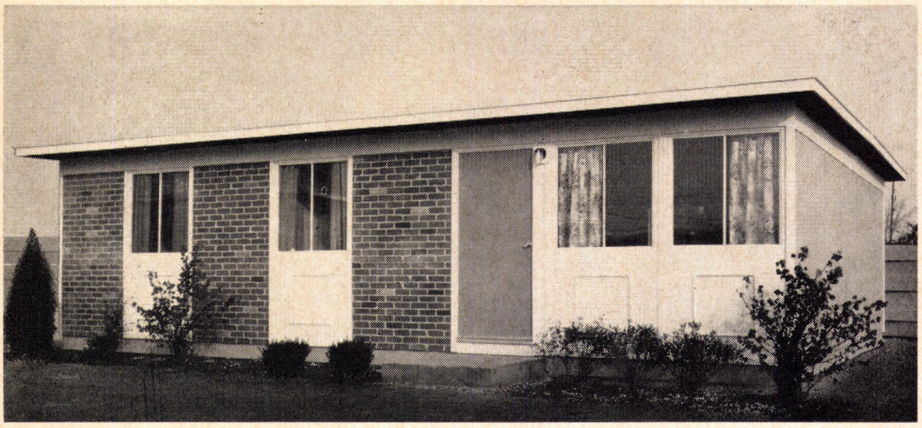
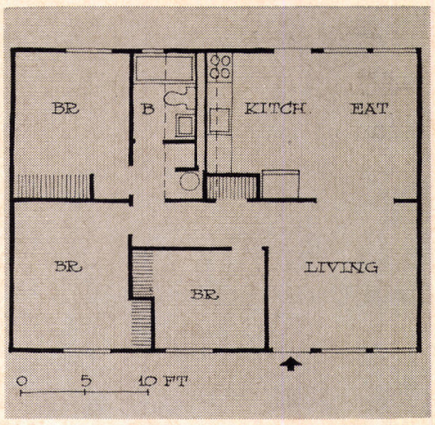


FRONT ELEVATION of National Homes' new low-cost prefab combines particle board siding and simulated brick made of glass fiber. Roof panels have paint-coated aluminum facing.



FIVE-ROOM PLAN offers 768 sq. ft. priced at $6,500 cash or $7,295 with 30-year mortgage.

Prefabber's new stab at the low-income market—is this the

This new $7,295 prefab goes together like greased lightning. But when it's together, it looks like a house built for the 1950s' shelter shortage. Why has the nation's largest prefabber—National Homes Corp.—decided to try this stripped-down economy model in the 1966 marketplace?

Probably because the company wants to capitalize on its new construction system. The high-speed system exploits several new low-maintenance materials and lends itself ideally to assembly-line production. Floors, walls and roof are stressed-skin panels made by gluing sheet finishes directly to 2x2 and 2x4 framing. The panels are produced in large dimensions, placed by crane on a simple beam-and-pier foundation, and joined by lag screws, metal ties and metal and plastic channels.

Exterior seams between panels are covered at the site by simply sticking plastic adhesive tape over them. Sealer strips of plastic foam and glass fiber are inserted at wall-floor and wall-roof joints. Heating and plumbing come pre-installed in a bathroom-utility core.

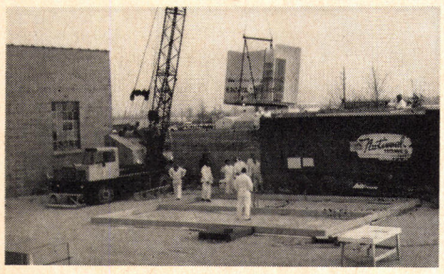
From a technical standpoint, this system has two advantages:

1. It is fast. National set up a 24'x32' demonstration model in three hours (*photos, below*) and estimates average set-up time should be about four hours.

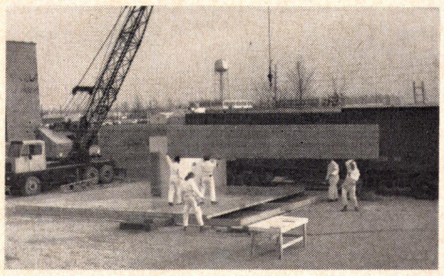
2. It gives the prefabber 90% control of the house package, instead of the usual 30% to 40% control. Only 10% of the construction work is done away from the assembly line.

But the system doesn't produce the cheapest possible house. The 768-sq.-ft. house shown above sells for $7,295 with a 30-year mortgage—or roughly $9.50 a sq. ft. To this a buyer must add the cost

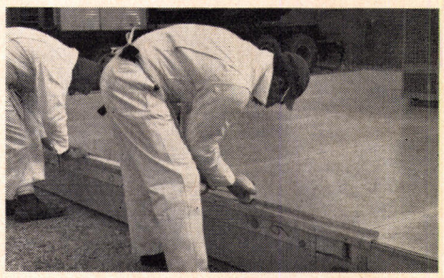
National's demonstration model went up in three hours



10:14 A.M. Crane sets utility core containing bathroom fixtures, water heater and furnace.



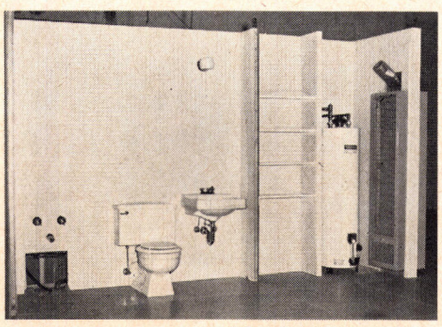
10:29 A.M. Last of eight stressed-skin floor panels is set. Metal plates tie panels to beams.



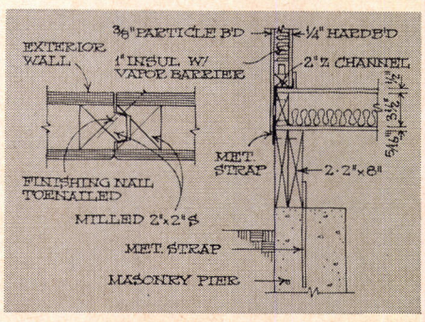
10:33 A.M. Z channel is nailed to floor perimeter. Foam-tape insulation is laid on Z.

Metal ties and adhesive tape speed up panel-joining

FOUNDATION consists of 4x8 beams tied to 12 concrete piers by metal strap embedded in piers.

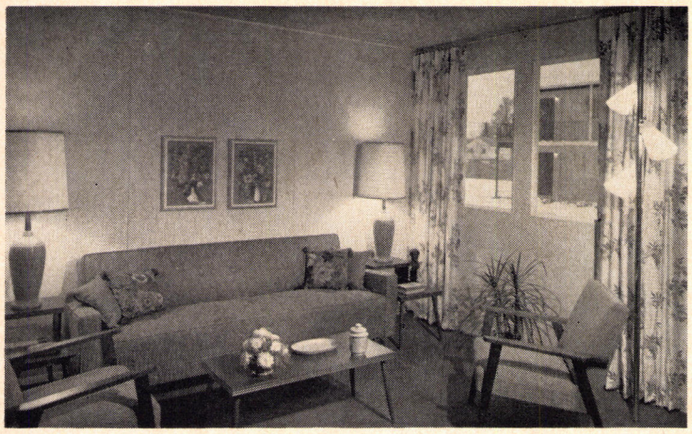


UTILITIES come mounted in plumbing core, but tub and kitchen equipment are installed on job.



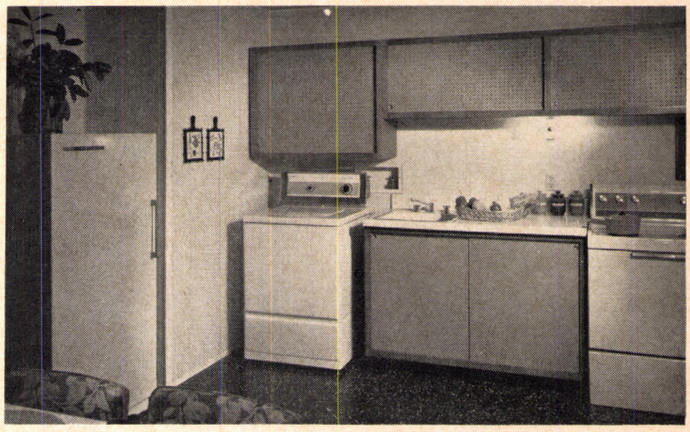
WALLS are nailed to floor through Z channel and siding flange. Panel joints are male-female.

Hedrich Blessing



FURNITURE PACKAGE—chairs, sofa, end tables, beds, dressers, kitchen table and appliances—is optional. It increases house price to $7,995.

Hedrich Blessing



KITCHEN-LAUNDRY comes with sink and cabinets, but all other equipment is optional. Structural wall covering in all rooms is decorator hardboard.

right house at the wrong time?

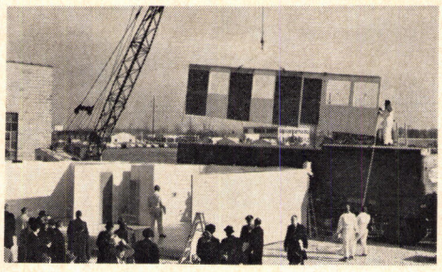
of land; foundation; water, sewer and electrical service; finish grading, walks and stoops; and kitchen appliances. So the ultimate price could run $13 a sq. ft.

And price is now more critical than ever in low-cost housing. Mobile-home manufacturers, with their faster assembly lines, have all but eliminated panel-house prefabbers from the under-$10,000 market. For the price National Homes is talking about, a mobile-home producer includes complete house furnishings, all appliances and wood paneling. And for the low-income buyer who wants more space and a conventional foundation, many of the mobile-home companies are now offering sectionalized houses built with the same economy as mobile homes but twice as large.

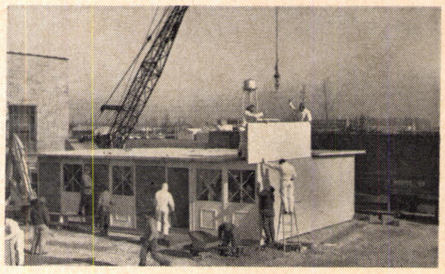
National's new house is also no further ahead of mobile homes in code and labor-union acceptance. Like the trailers, the house has 2x2 wall framing and comes with factory-installed plumbing. FHA approval is still forthcoming, though National expects to have it this fall. The prefabber is well armed with the results of strength and durability tests run on its new components by Purdue University's Wood Research Lab and by the six major materials manufacturers that are contributing to the initial promotion of the house.

National is not limiting its new system to residential housing, however. The company calls it "a multi-purpose component building system," and has used it to build a demonstration school building and a military utility shelter as well as a house. Other applications—one- and two-story motels, apartments, military and overseas housing—are illustrated in brochures. All the buildings have the same basic design.

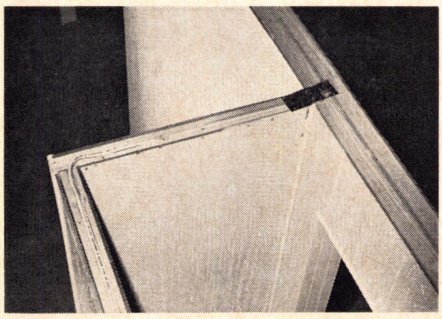
10:51 A.M. Half of rear wall—first of 17 prefinished wall panels—is set on Z channel.



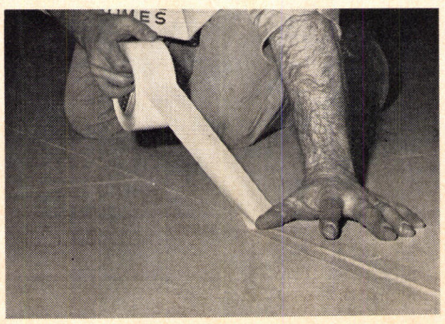
11:42 A.M. House-length front wall panel is lowered and joined to side walls by lag screws.



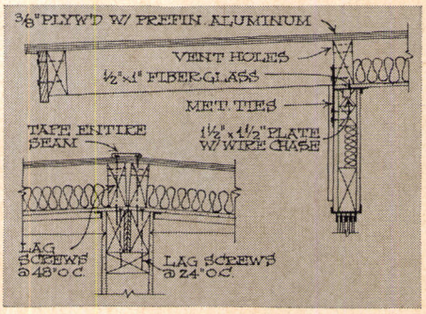
1:25 P.M. Last of 18 roof panels is set, and house is completed. Time: 3 hours, 11 minutes.



WIRES fit in panel raceways. Partitions, linked by metal plates, fit into T and U channels.



SEAMS between panels on floor and roof are covered with weatherproof plastic adhesive tape.

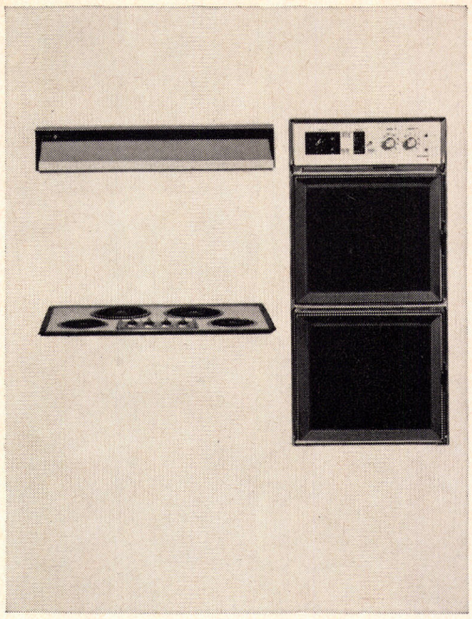


ROOF is anchored to walls by metal tie-plates. Vented roof panels rise to center bearing beam.

New products start on p. 152

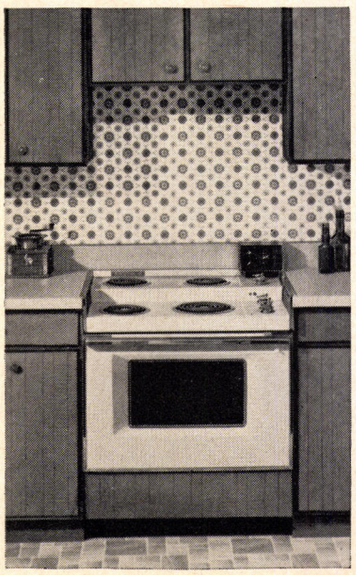
Zeke Zar says: "From 2-level cooking to French-door refrigerators,

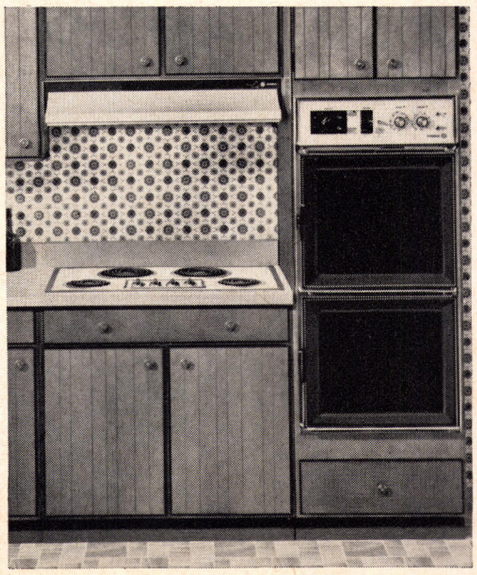
2-level cooking. "Take this Terrace Top range. Looks built-in when you slide it between new Westinghouse cabinets. Yet it's a complete floor unit for easiest possible installation and servicing. That's sales appeal."

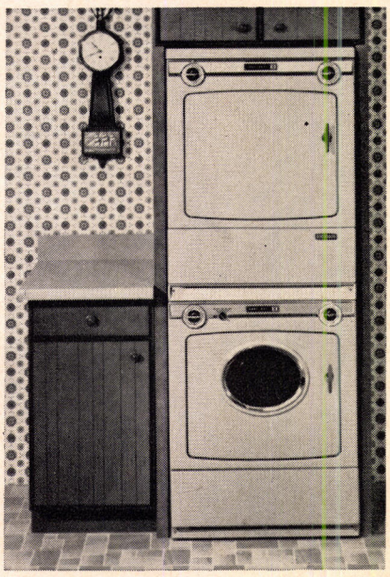


Hoods, platforms, ovens with black glass doors. "How about this counter-top platform and oven combination? Shallow platforms allow cabinet drawers underneath. Then top it off with new Westinghouse range hoods. Add black glass doors and Westinghouse's new Antique Maple cabinets. That's sales appeal.

Stacked washer and dryer. "No home is too small for this exclusive Westinghouse stacked pair. Takes only 27 inches of floor space. It fits in closets. Many builders today use laundry equipment as important selling features. So it's good to know Westinghouse's complete line."



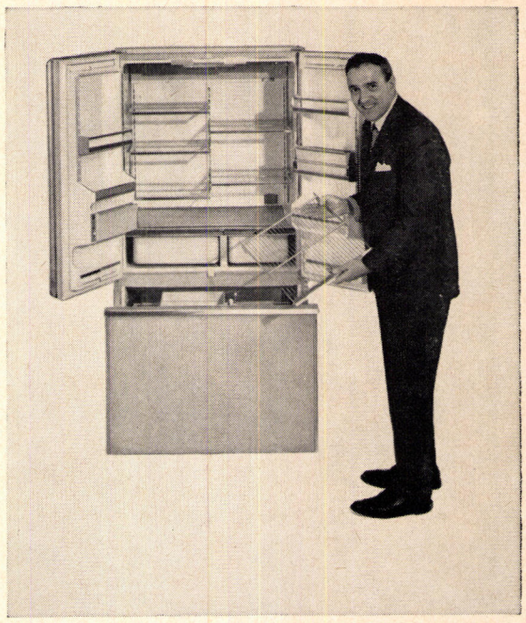




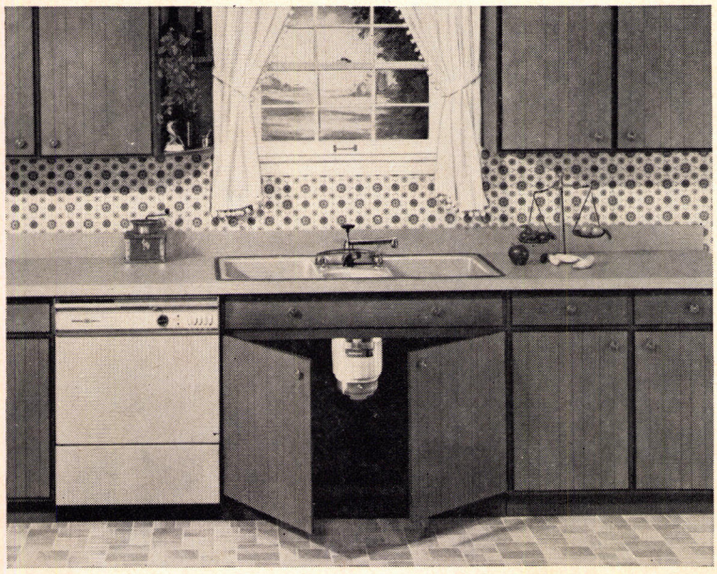
Westinghouse built-ins get people to stop and look and look again."

Top-rated dishwasher. "Another 'must' in modern housing. And Westinghouse is rated number one by a leading consumer test organization. Choose from three built-in models. They'll fit in anywhere."

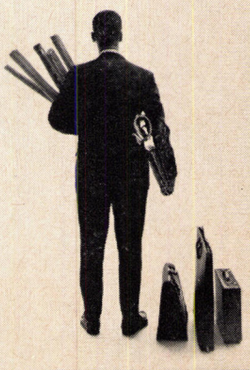
Super-quiet disposer. "You can choose from three models here, too. They install quickly in any 3½" to 4" sink drain opening... and provide a new high in efficient, super-quiet operation."



French-door refrigerator. "No left or right-hand door opening problem with this new Westinghouse Continental. The lighter, easier-to-open doors cut swing space in half. And easy adjustable shelves, add new convenience. *And as the new Marketing Manager of Westinghouse Residential Products...I invite you to look us over."*



One Man—One Plan—One Brand. Your nearest Westinghouse Residential Sales Manager can be your single contact for the complete line of Westinghouse products. Call him and get the new 1966 Residential Catalog...or look it up in Sweet's file.

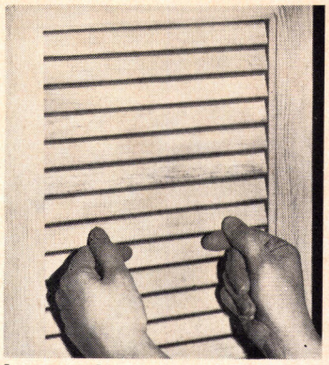


You can be sure if it's Westinghouse

Circle 92 on Reader Service Card

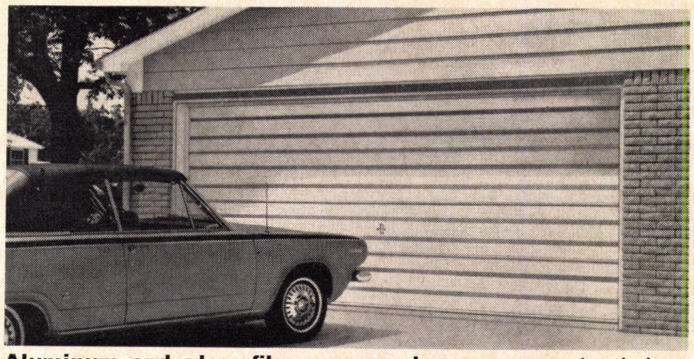
Doors & windows

Entrance door is hand-tooled from solid lumber components. The door, which is imported from Spain, has a finish designed to create an antique, weather-beaten effect. Two other designs are available. Cornell-Newton, Beverly Hills. (*Circle 204 on Reader Service card*)

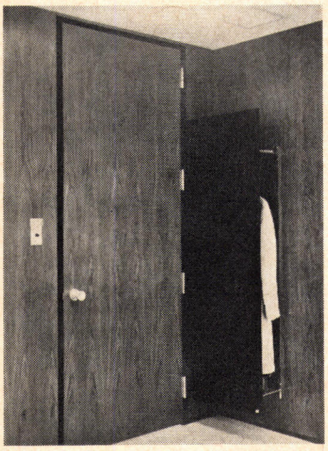


Louver door has louvers that fit tightly without gluing. If a slat gets damaged in handling, it can be replaced on site after doors have been installed, according to the manufacturer. Replacements are free to builders. Jessup Door Co., Dowagiac, Mich.
Circle 205 on Reader Service card

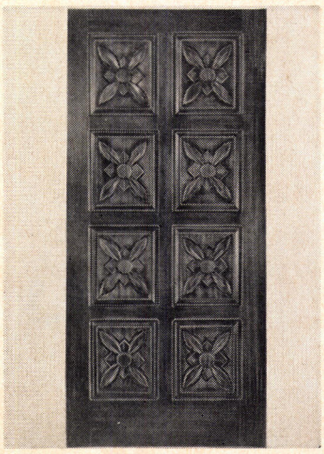
Door of wood and reinforced polyester offers high durability and weather resistance. The motif is integral with the door surface and is repeated on both sides. The factory finished doors can be custom designed. Kaylien, Santee, Calif.
Circle 206 on Reader Service card



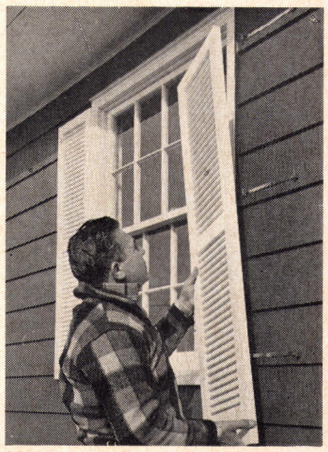
Aluminum and glass-fiber garage doors never need painting. Factory assembly is said to reduce installation time by as much as 40%. The doors also transmit diffused light from inside or out. Berry Doors, New Britain, Conn. (*Circle 207 on Reader Service card*)



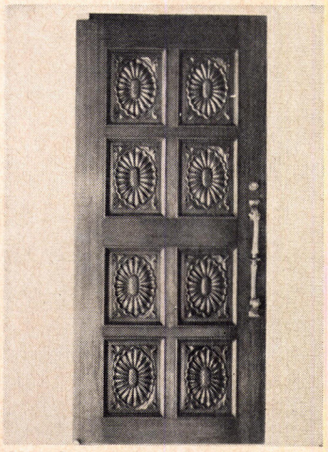
Wood fire door, 9′ high, is available in most wood species. The door, which has a mineral core, is listed by Underwriters' Laboratories. Size: 1¾″ thick, maximum width 4′. A high density surface is optional. U.S. Plywood, New York City.
Circle 208 on Reader Service card



Carved doors made from kiln-dried mahogany are available in eight patterns. Stile and rail doors come in standard and custom sizes. All doors are treated to eliminate moisture absorption. Aztec Door Manufacturing, Phoenix, Ariz.
Circle 209 on Reader Service card

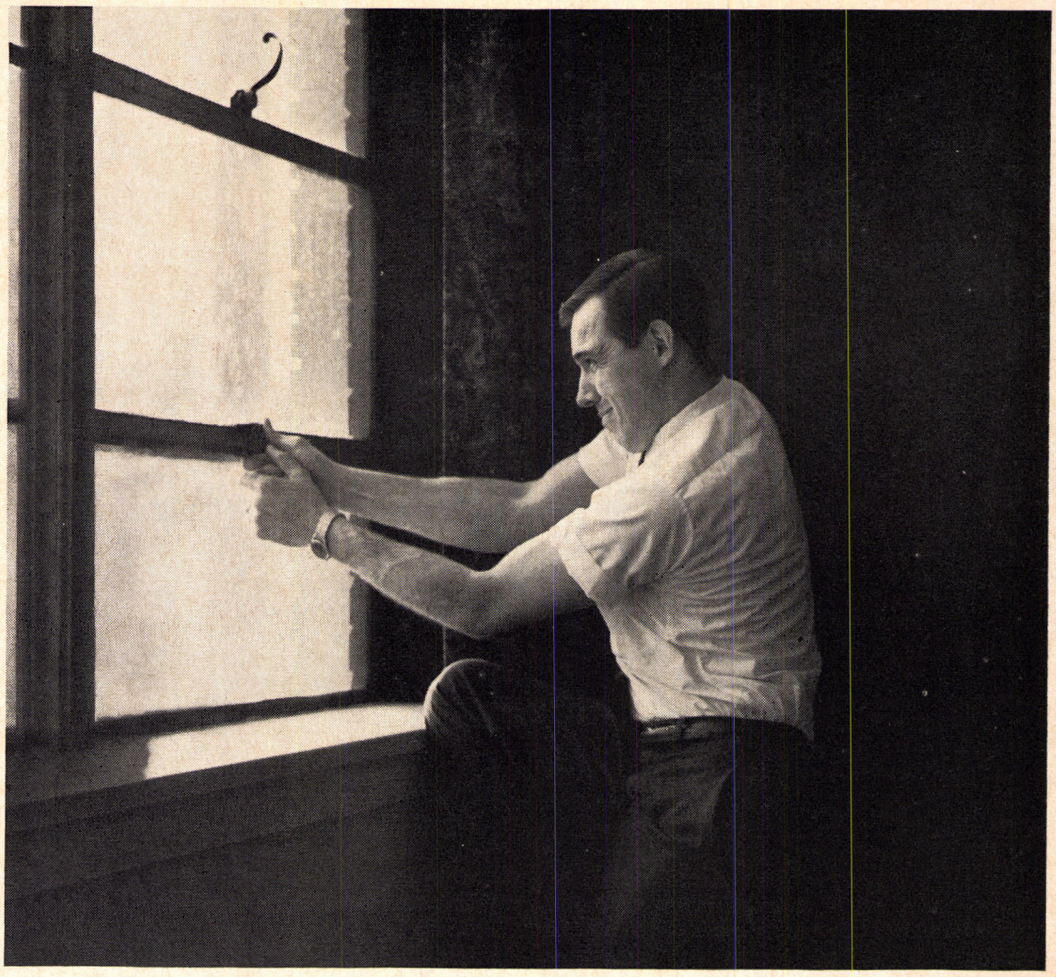


Nylon shutters that look like wood are weather and rot resistant and offer minimum maintenance. They are fastened to house-mounted aluminum straps with heavy-duty spring clips. Colors: black, white and dark green. Du Pont, Wilmington.
Circle 210 on Reader Service card



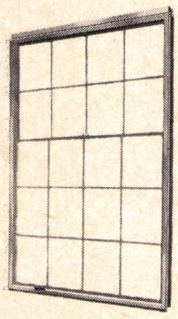
Hand-carved entrance doors of kiln-dried woods are available in a wide range of designs. Doors can also be custom styled. Also available are wood panels that create a hand-carved effect on any flush door. Acme Hardware Co., Los Angeles.
Circle 211 on Reader Service card

New products continued on p. 154



Ever try to open a ten-year-old "economy" window?

Then why would you ever use anything but a Republic 138 steel window?



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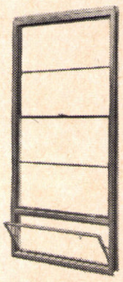
- Weathertight. Stainless steel weather stripping locks weather out, keeps heat in. Tightest for air conditioning. Air leakage . . . in . . . out . . . next to zero.



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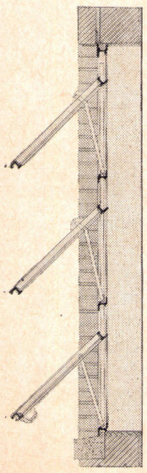
So, we'll ask again—for schools, hospitals, commercial buildings, apartments, dormitories, nursing homes, hotels, office buildings, professional buildings, motels—wherever windows must open and close, why take a chance on anything less certain than the old reliable 138?



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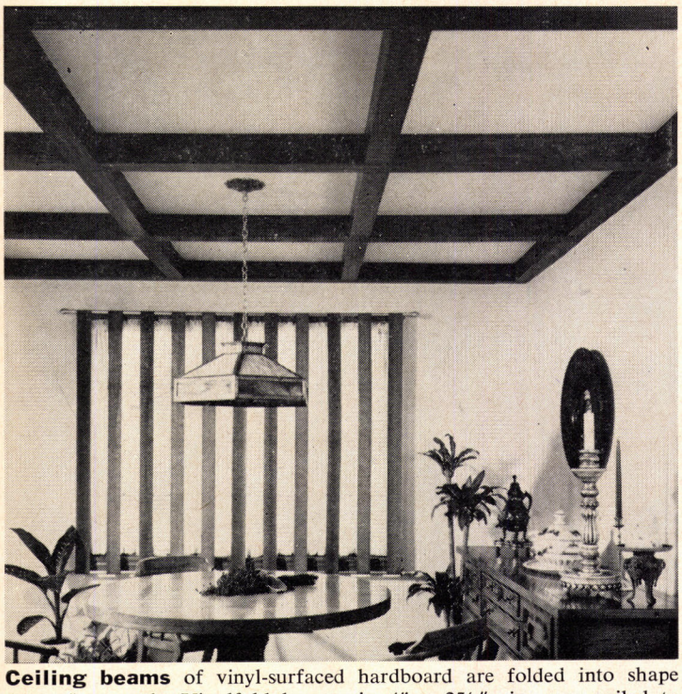
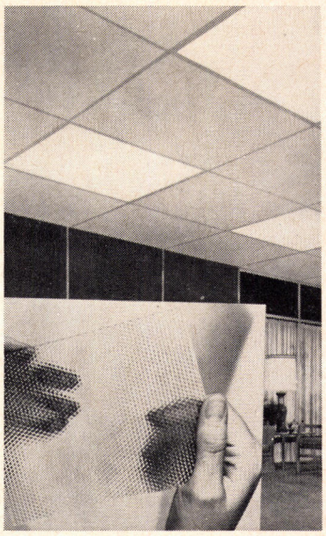
Circle 93 on Reader Service Card

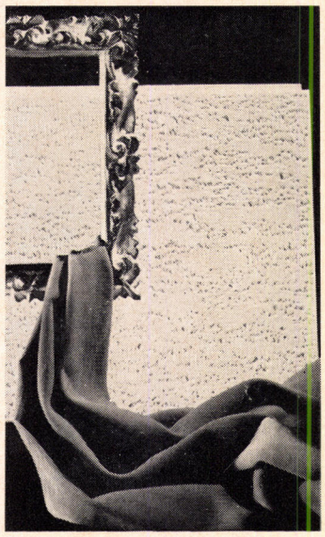
Ceilings



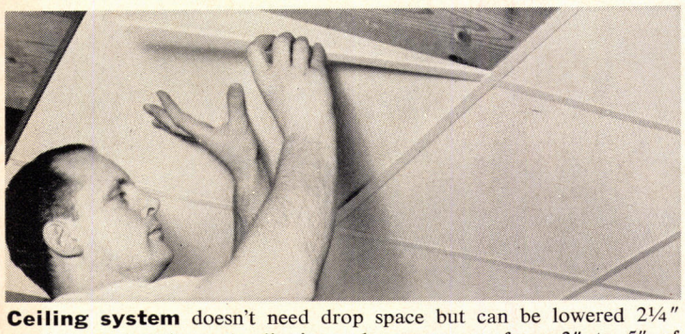
Ceiling beams of vinyl-surfaced hardboard are folded into shape from flat panels. Vinylfold beams, in 4″ x 2⅞″ size, are nailed to furring strips on finished ceilings of plaster, drywall or tile. National Gypsum, Buffalo. (*Circle 212 on Reader Service card*)



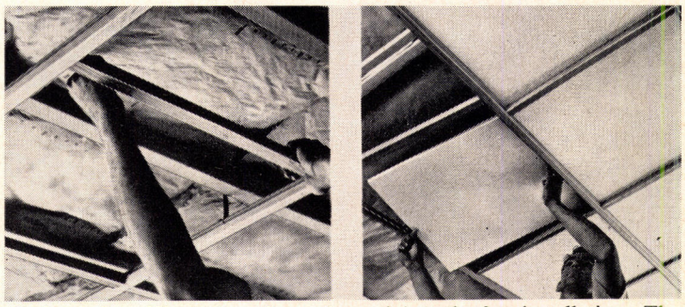
Glass lighting panels are available in small sizes in standard and chemically strengthened types; larger panels come only in strengthened material. Corning Crystal 79 has a prism design. Corning Glass Works, Corning, N. Y.
Circle 213 on Reader Service card



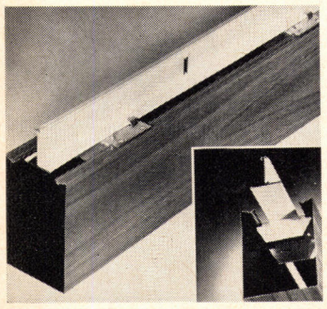
Nonacoustical tile has a textured surface with an intricate fissuring detail. Fissures are tinted with a tan pigment to accent their depth and detail. Conestoga is part of the manufacturer's Decorator Temlok line. Armstrong, Lancaster, Pa.
Circle 214 on Reader Service card



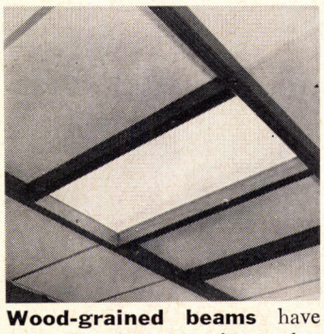
Ceiling system doesn't need drop space but can be lowered 2¼″ to clear obstructions. A clip is used to conserve from 3″ to 5″ of space. The Headroom system is designed for use with 2′x2′ and 2′x4′ panels. Insulite, Minneapolis. (*Circle 215 on Reader Service card*)



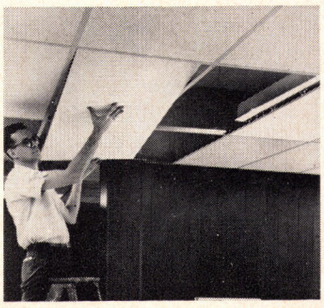
Redwood ceiling doesn't need special tools for installation. The system is suspended from ceiling joists by hanger straps to form a module that will support any of the maker's acoustical or decorative ceiling boards. Simpson, Seattle. (*Circle 216 on Reader Service card*)



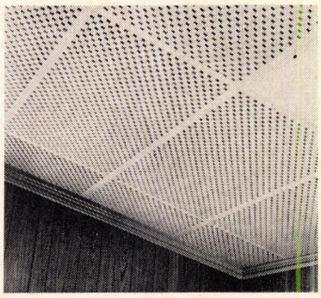
Metal beams covered with vinyl are designed to be attached to the metal grid network of suspended ceilings. Special clips are attached to the grid and beams snap onto them. The beams come in 12′ lengths. Owens-Corning Fiberglas, Toledo.
Circle 217 on Reader Service card



Wood-grained beams have hollow steel construction and a laminated vinyl film exterior. Beams are installed with clips and can be applied to any ceiling or wall. Standard lengths: 2′, 4′, 6′ and 12′. General Ceilings Corp., Chicago.
Circle 218 on Reader Service card



Suspended ceiling system includes hardwood-fiber lay-on panels, a grid system or wire angles, main runners and cross tees, and translucent acrylic panels. Two patterns and four sizes are available. Allied Chemical, New York City.
Circle 219 on Reader Service card



Ceiling grillework is composed of symmetrically interlocking oval shapes. The system has light-diffusing and ventilating qualities. Grillework can be backed with a fiberglass blanket for added acoustical properties. Panelboard, Newark, N.J.
Circle 220 on Reader Service card

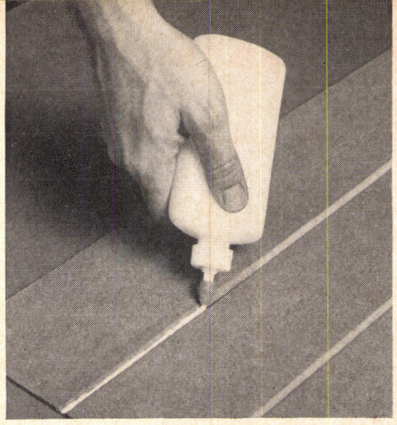
New products continued on p. 158

Circle 94 on Reader Service Card ➤

Vinylfold

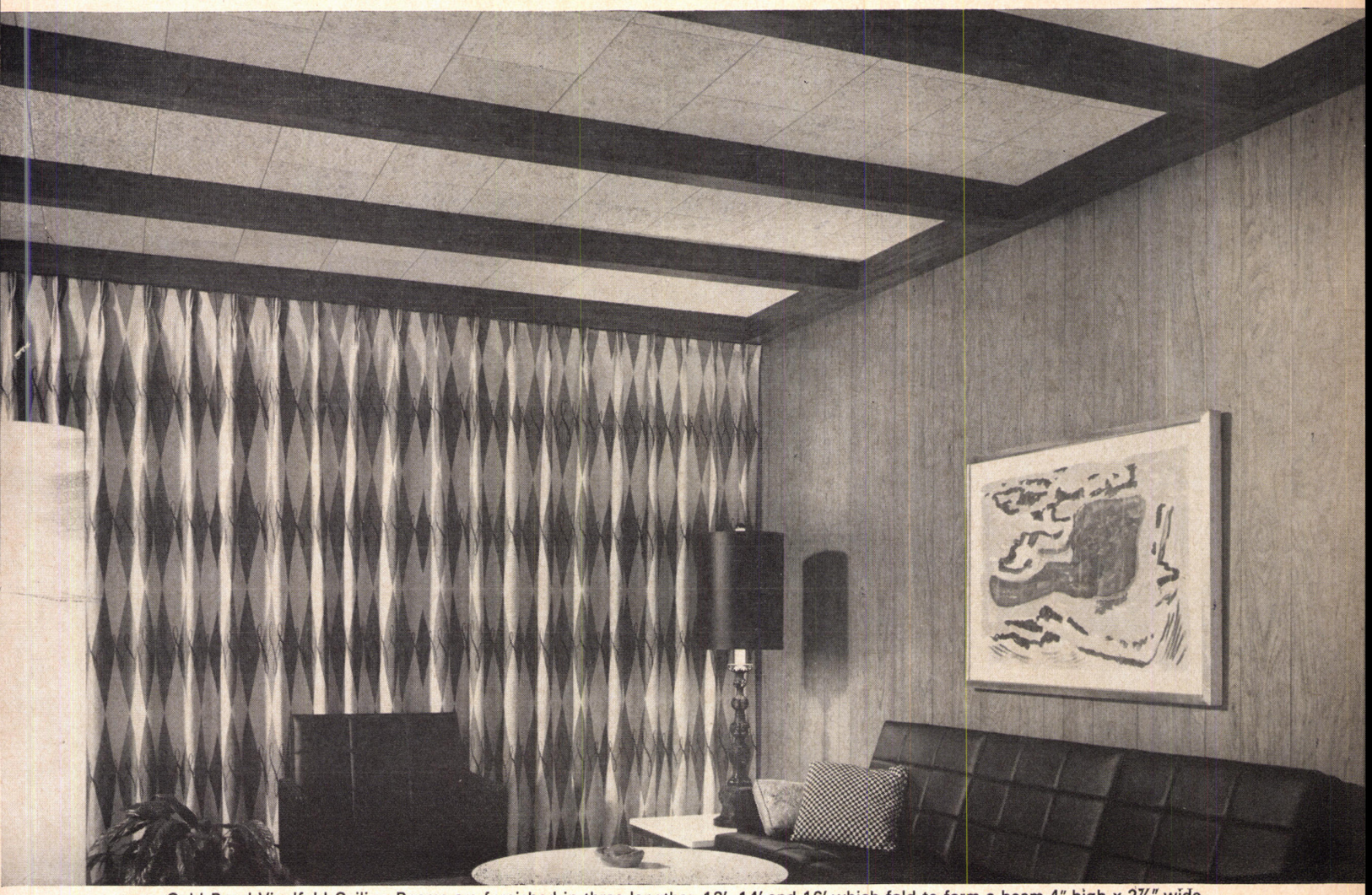
We think new about ceiling effects

Nail 1"x 3" (actual 2¾") furring strips to ceiling in pattern desired.



Apply household glue in the grooves of the beam before it is folded.

Now simply fold beam around furring strip and nail every 12 inches.



Gold Bond Vinylfold Ceiling Beams are furnished in three lengths: 12', 14' and 16' which fold to form a beam 4" high x 2⅞" wide.

Now you can create "beamed" ceilings for only a few dollars a room.

New Gold Bond Vinylfold Ceiling Beams are vinyl-covered hardboard ingeniously designed to fold into the shape of a beam with the grain and texture of real wood. These Gold Bond Vinylfold Ceiling Beams install over any type of ceiling—drywall, plaster, ceiling tile—even after the ceiling has been painted. Thinking of ways to make your houses more salable? Think new with Vinylfold.® Call your Gold Bond Representative. Or order through your Gold Bond® building-supply dealer. National Gypsum Company, Dept. HH-46IN, Buffalo, New York 14225.

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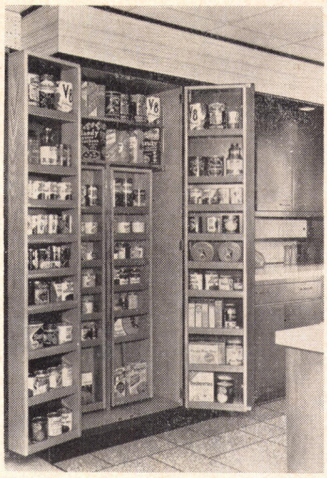
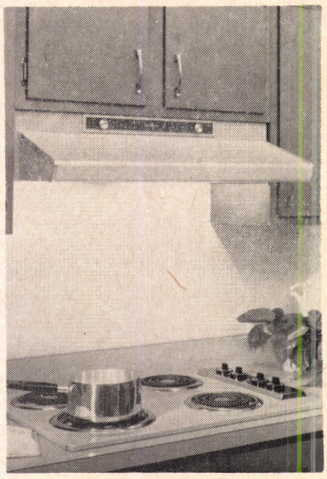
Circle 72 on Reader Service Card

Kitchens

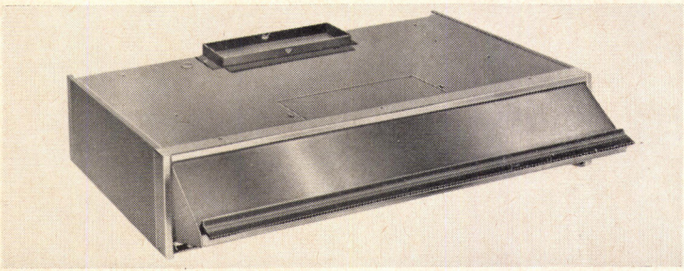
30″ range offers four cooking levels—a top oven with broiler, a tri-level cooktop with work area, a large lower oven and a separate bottom broiler. The Charmette is available in both gas and electric models. Roper, Kankankee, Ill. *(Circle 251 on Reader Service card)*



Pantry has shelves of varied heights inside and on the backs of doors. Behind the pivoting center unit is additional storage space and a broom closet. Size: 84″ high, 36″ wide and 24″ deep. Wood-Metal Industries, Snyder County, Pa.
Circle 252 on Reader Service card

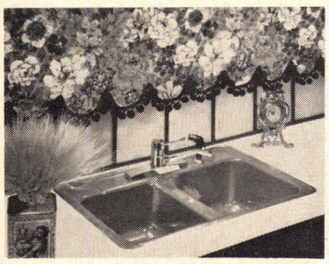


Range hood with die-cast control panels and contoured front edge has recessed lighting and two-speed fan controls. The unit is available in a choice of three metals and nine finishes and in 30″, 36″, 42″ and 48″ widths. Nutone, Cincinnati.
Circle 253 on Reader Service card



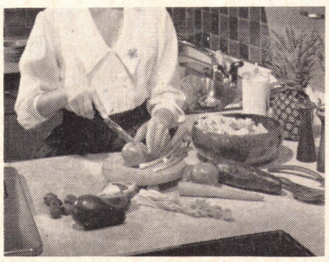
Ventilating range hood designed for eye-level ranges is convertible for either ducted or duct-free installation. The Pryne 1100 has a 200 cu.-ft.-a-minute capacity and an automatic blower. Emerson Electric, St. Louis. *(Circle 254 on Reader Service card)*

Electric range includes an automatic clock that starts, stops and selects preset temperature. A storage area is located to the left of the oven. Five colors are available. Brown Stove Works, Cleveland, Tenn. *(Circle 255 on Reader Service card)*



Colored sinks of cast iron are available in coppertone shade. Four models are offered—two in 32″x21″ size and two in 42″ x21″ size. Units are enamel coated and have a surface that is said to be acid resistant. Kohler, Kohler, Wis.
Circle 256 on Reader Service card

Stainless steel sink is undercoated and has a satin finish. The model shown is self-rimming and has a double compartment. Other models available have regular rim and single compartment. Spray and hose attachments are available. Gerber, Chicago.
Circle 257 on Reader Service card



Decorative laminate is available in a texture and finish similar to natural wood. Nevamar is nonporous, heat and stain resistant and is easily cleaned. The surface will not chip, crack or peel in normal use. Nevamar, Odenton, Md.
Circle 258 on Reader Service card

Stainless steel sinks have a hand-rubbed finish that looks like Danish cutlery. Sink bowls are polished in concentric circles so the surface does not get scratched in normal use, says the manufacturer. Hancock Products, New Bedford, Mass.
Circle 259 on Reader Service card

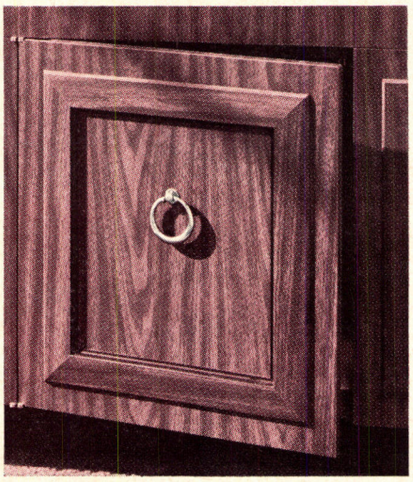
New products continued on p. 162

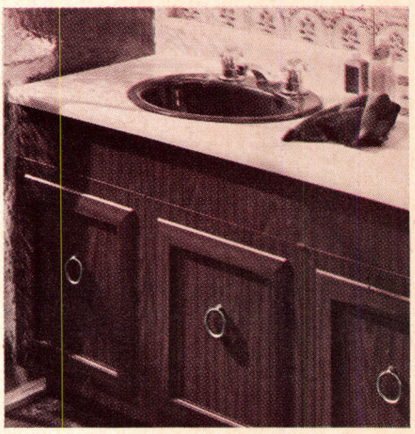
"Is there a vanitory in the bath?"

As long as she's looking for high style and convenience, make it easy with a new vanitory surfaced with FORMICA® brand laminated plastic.

Ten exciting new vanitory designs are now available from Formica Corporation. The accent is on elegance and convenience that's easy to see at first glance.

FORMICA® brand cabinet moldings and laminate surfaces create completely carefree vanitories. Base cabinets and tops stay beautiful for years, in spite of moisture, medicines and cosmetics.





Your fabricator of FORMICA® brand laminated plastic can show you vanitories that build the look of fine furniture into your bathrooms. However you design, however you decorate, there's a vanitory design from Formica Corporation styled for your homes.

Contact your local Formica district office or write direct for complete information and sources for vanitory designs with sell-power. FORMICA® is our brand name for laminated plastics, molding, adhesives, flakeboard, wall paneling, industrial plastics, doors and toilet compartments.

FORMICA® BRAND laminated plastic

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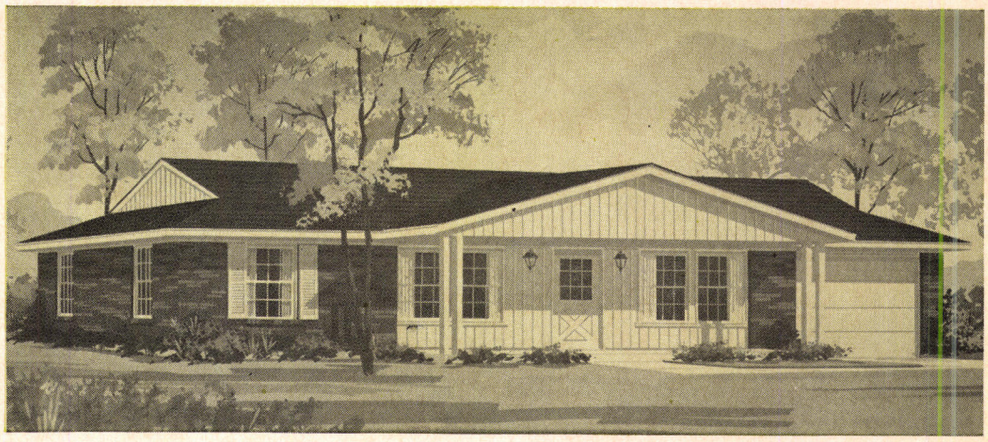
Circle 95 on Reader Service Card

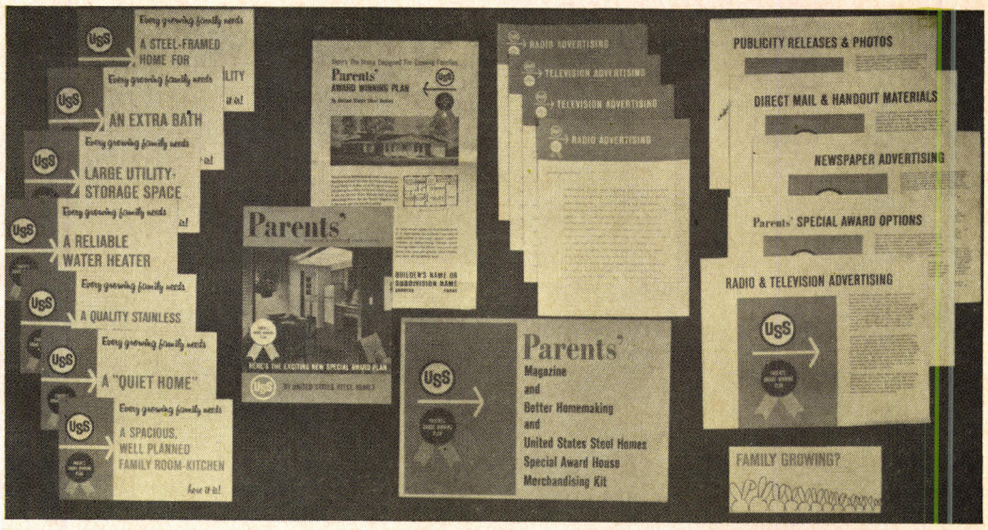
It's Planned Merchandising Like This...

This month, U. S. Steel Homes Dealers will be showing this home in a national promotion. It is being featured in a 6-page illustrated editorial in Parents' April issue.



PARENTS' AWARD WINNING PLAN

To enable each of its participating dealers to take full advantage of the sure-fire sales potential this national publicity will create, U. S. Steel Homes has provided a complete merchandising kit. This kit of advertising and promotion tools includes newspaper ads, radio and television scripts, colorful 4-page handouts, direct mail pieces, publicity releases and photos, everything in fact the dealer needs to effectively tie-in.



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Ashley Oaks Apartments, Atlanta, Georgia. This 228-unit garden type apartment is comfort conditioned by individual York Flex-O-Metic® air conditioners, combined with Borg-Warner electric furnaces. Owner and General Contractor, C and A Land Company; Architect, Van Fraser, A.I.A.; Mechanical Contractor, General Heating and Air Conditioning Company; Plumbing Contractor, General Mechanical Corporation.

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When you build a modern garden apartment, you can depend on York for advanced comfort conditioning units and systems! And now York offers builders an exclusive *odor control system*, with Purafil™ odoroxidant, that can be included in any York air conditioner. This amazing York feature doesn't mask odors, or store them. It destroys them, chemically!

And York offers builders many more features, including factory-charged systems, quick-connect couplings that speed installation. York's vertical air discharge on the heat exhaust section protects the building, won't damage lawn or shrubbery.

For more facts, contact your nearby York Dealer. Or write York Corporation, subsidiary of Borg-Warner Corporation, York, Pennsylvania. In Canada, contact National-Shipley Ltd., Rexdale Boulevard, Rexdale, Ontario.

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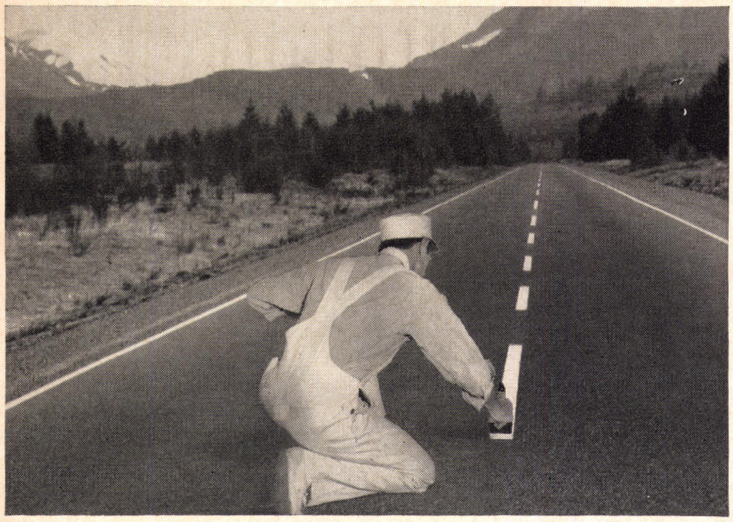

Paint is for a lot of things.

Olympic Stain is for wood.

Olympic Stain and wood were made for each other. So they get along beautifully.
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Circle 98 on Reader Service Card

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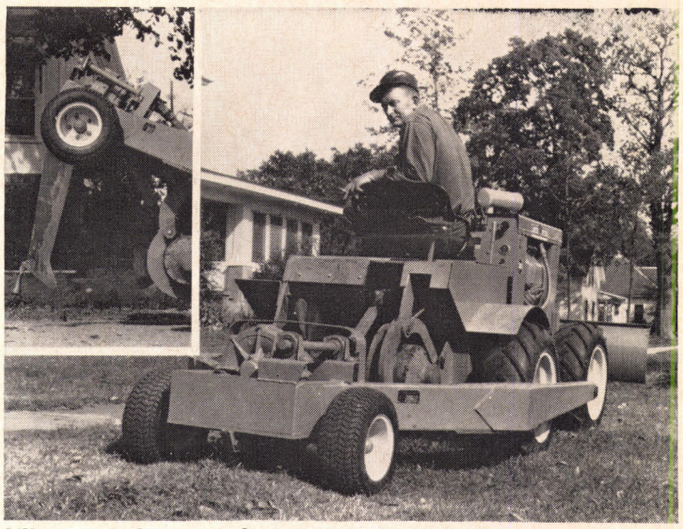
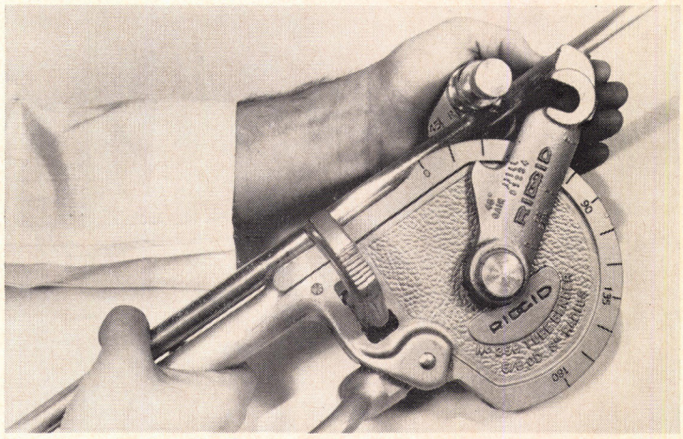
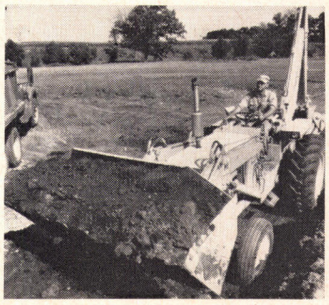


Vibratory plow attachment for V30 Ditch Witch trencher installs utilities underground without trenching or backfilling. Pipe or tubing to 1½″ in diameter can be sunk to depths of 24″. Charles Machine Works, Perry, Okla. (*Circle 260 on Reader Service card*)



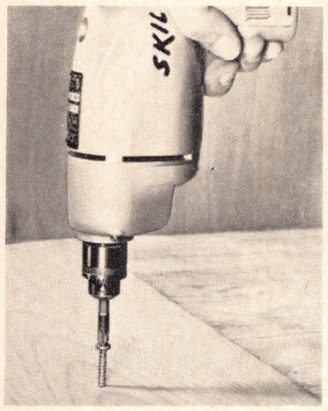
Bending device for hard copper, steel and stainless steel produces 13 lbs. of bending pressure for every 1 lb. of muscle force. Any bend radius from 0° to 180° can be achieved. The Ridge Tool Co., Elryia, Ohio. (*Circle 261 on Reader Service card*)



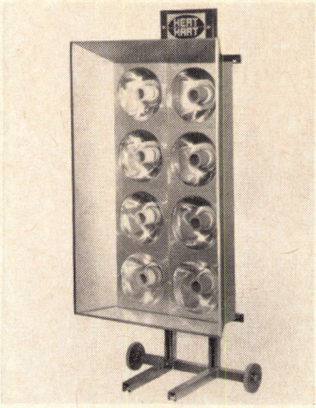
Loader tractor has a torque converter and transmission designed to cut loading cycle time by up to 33%. The twin-pedal forward-reverse transmission allows operator to change directions without declutching. International Harvester, Chicago.
Circle 262 on Reader Service card

Conduit cutter can be used on flexible or thinwall conduit, wire mold, large cable and other materials. The hand-held device is anchored to a stud or beam by its spiked tip and material to be cut is clamped down. Price & Rutzebeck, Hayward, Calif.
Circle 263 on Reader Service card

Circle 99 on Reader Service Card



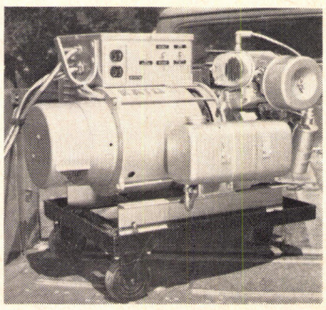
Drill has trigger that regulates speed by finger pressure. When proper bit is used, unit offers accuracy in drilling any material including steel, ceramic tile and glass. It can also be locked at full speed. Four models are offered. Skil, Chicago.
Circle 264 on Reader Service card



Infra-red heater is mounted on two-wheel trucks for mobility. Heat Kart is internally wired and is designed to operate without producing fumes or dirt. Four ceramic-type electric heaters are included in the line. Dry Clime Lamp, Greensburg, Ind.
Circle 265 on Reader Service card

Two-way mobile radio can be mounted under car dash. It is 4″ high, 12½″ long and 12¾″ wide. Unit features quiet reception and minimum noise. Up to four frequencies are available. General Electric, Lynchburg, Va. (*Circle 266 on Reader Service card*)

Lift trucks are available in four models with capacities ranging from 3,000 lbs. to 6,000 lbs. The Challengers have a 72 hp gasoline engine and two transmission options. Units have up to 38% gradeability. Hyster, Danville, Ill.
Circle 267 on Reader Service card



Power unit produces both AC and DC power. It is designed as a booster for trucks and engines and as a source of auxiliary power for lights and power tools. AC output: 3,200 watts; DC output: 3,000 watts. Kato Engineering, Mankato, Minn.
Circle 268 on Reader Service card

New products continued on p. 164

How a $5-bill will help you sell or rent weeks earlier

Yes, a mere $5 can sell your home or rent your apartment weeks earlier. That's only about two days' interest on a building loan. And it's not for the catalog, which is free.

For only $5 more than the cost of an ordinary cabinet, you can buy a Grote high-style "decorator" cabinet that will add a million-$ worth of sales appeal to your bathroom. And alert builders know that a deal often hinges on this, the only room along with the kitchen, that comes completely furnished.

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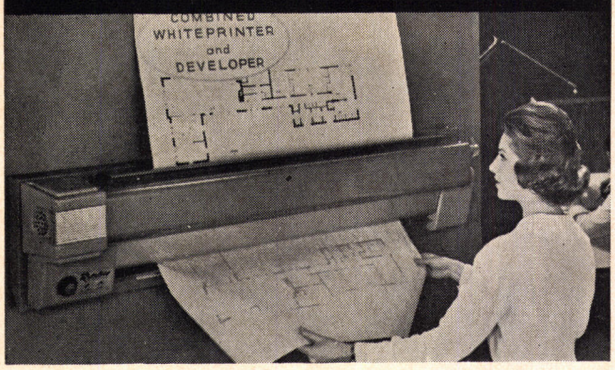
Circle 100 on Reader Service Card

IS THERE A BOTTLENECK IN YOUR BLUEPRINT DEPARTMENT?



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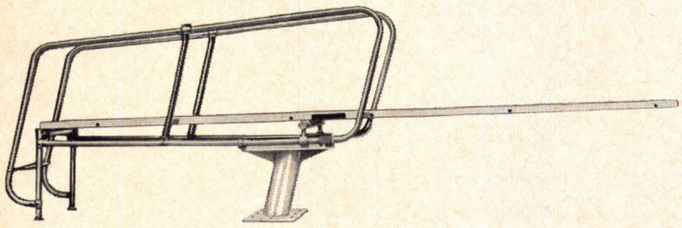

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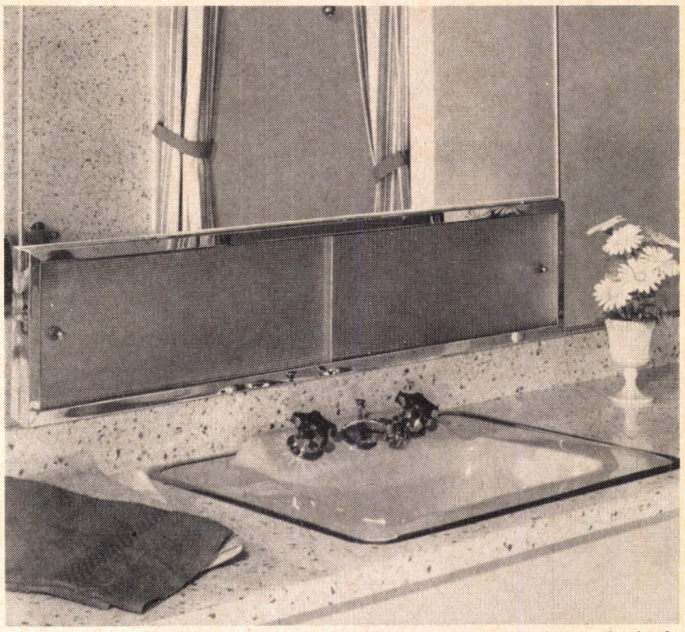
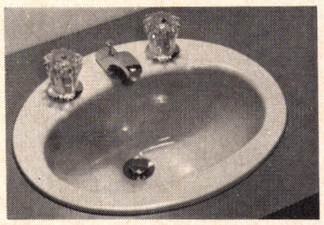
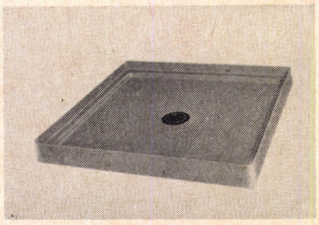


Vanity shelf, with brass trim, is designed to be recessed into the bathroom wall. The steel box, finished in metallic enamel, contains an electric outlet. Shelf is available in 30"x9" and 42"x9" sizes. Hall-Mack, Los Angeles. *(Circle 221 on Reader Service card)*

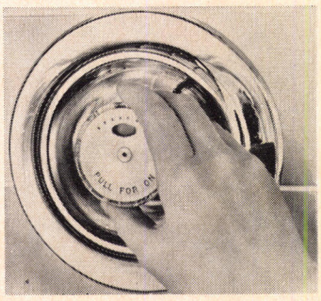


Self-rimming lavatory, of vitreous china, seals directly to the countertop and doesn't need a metal frame. The Pennington is available in six pastel colors and white. Fittings have acrylic handles. Lavatory size: 19½"x 16¼". Kohler, Kohler, Wisc.
Circle 222 on Reader Service card



Shower receptor looks and feels like stone but weighs 15 lbs. Lightweight Sparta-Stone can thus be carried and installed by one man. Units are available in 32"x32" size for manufacturer's Royal, Imperial and Crown models. Spartan, Maspeth, N.Y.
Circle 223 on Reader Service card

Bidet can be mounted on any standard toilet bowl. Unit has warm water jet and warm air stream for drying, both controlled by a lever. Water pressure is regulated by a knob. Unit has a one-year warranty. American Bidet Corp., Gardena, Calif.
Circle 224 on Reader Service card

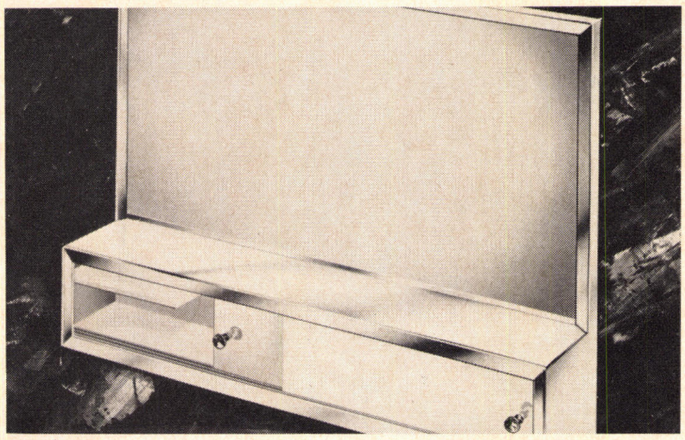


Shower control has visual color-coded water temperature controls. Full red indicates the hottest temperature, blue the coldest; colors combined show temperature mixture. On/off position is regulated by push-pull action. Speakman, Wilmington.
Circle 228 on Reader Service card

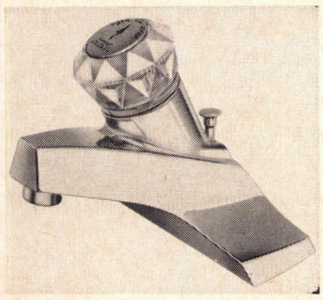
start on p. 152

Cabinet-dryer combination includes a clock, barometer, radio, and electric outlets in two separate sections. The dryer has four-way temperature control and a timer. Six basic models provide 24 possible variations. Howard Miller, Zeeland, Mich. *Circle 229 on Reader Service card*

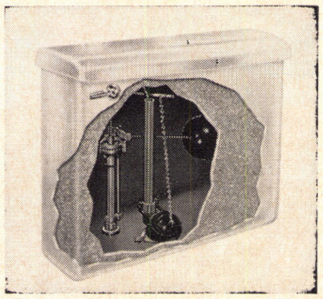
Early American lavatory, made of laminated plastic, comes in a Provincial Cherry finish. The unit, called the New Lexington, is available with cabinets in 24″, 30″ and 36″ widths. A matching mirror is also offered. Formco Inc., Cincinnati. *Circle 230 on Reader Service card*



Surface-mounted cabinet has a triple-plated chrome frame, either crystal or styrene plastic doors and a built-in shelf with a toothbrush holder. Mirrors are guaranteed against silver spoilage for ten years. Triangle Prods., Chicago. *(Circle 231 on Reader Service card)*

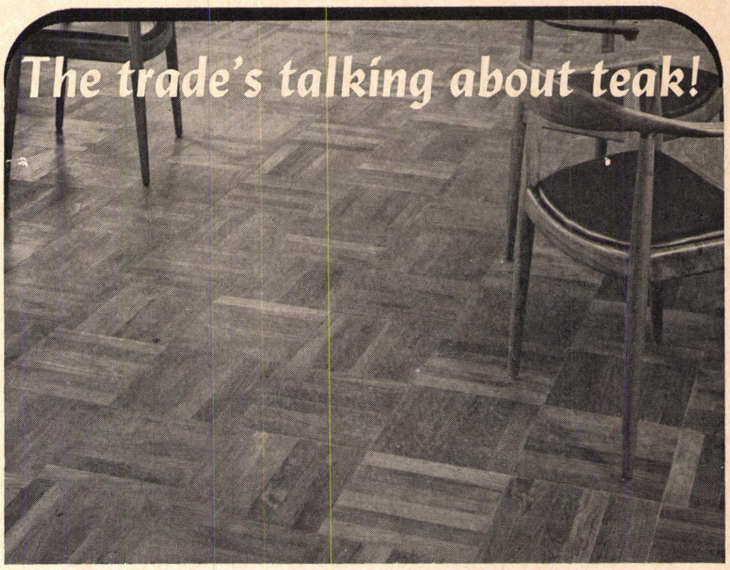


Lavatory fittings have clear lucite handles designed to create a cut-crystal effect. Four-inch fittings include an aerator and cast brass pop-up assembly. Matching single-handle mixing valves for shower are available. Price Pfister, Pacoima, Calif. *Circle 232 on Reader Service card*



Toilet tank has a liner of urethane molded permanently to the inner tank walls and bottom. Neu-Sahara is said to remain sweat free in 80°, 70% humid air with water temperature at 41°. Liner is nonabsorbent and sound absorbing. Crane, Chicago. *Circle 233 on Reader Service card*

New products continued on p. 166



"Straitline Floor Pattern", Member's Room at the Art Institute of Chicago. Architect: Brenner of Danforth & Rockwell.

- **Thai-Teak** (authentic Tectona Grandis, imported from Thailand) is **genuine teakwood** . . . lustrous, warm-grained . . . supremely beautiful.
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- **Thai-teak** costs now compare to medium priced carpet and vinyl.
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See Sweet's Catalog under Arch. file 19g-En and Light Const. file 7b-En.

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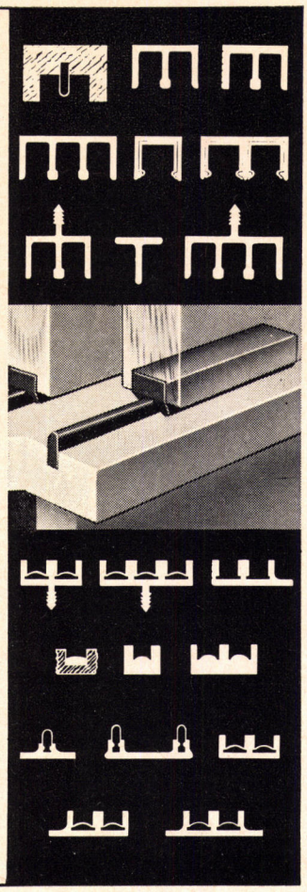

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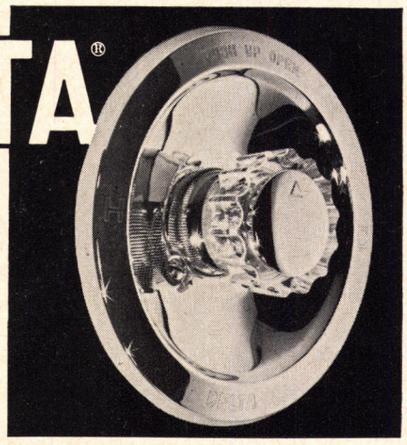

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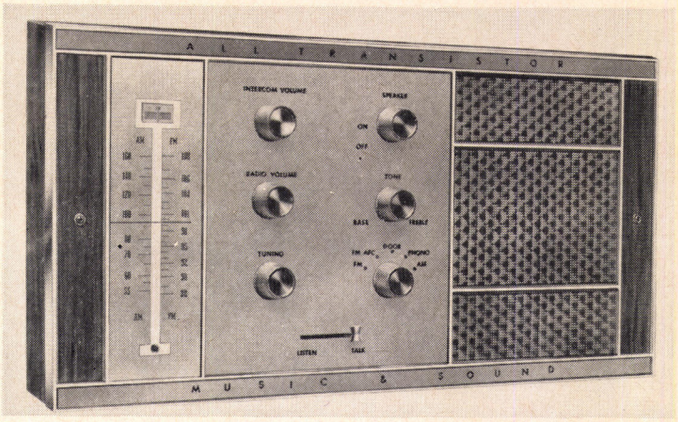
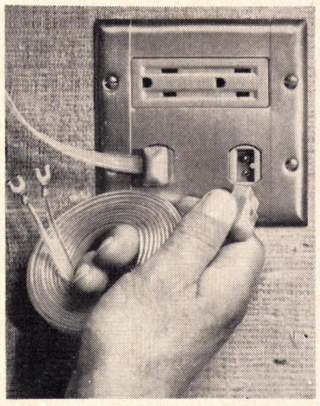
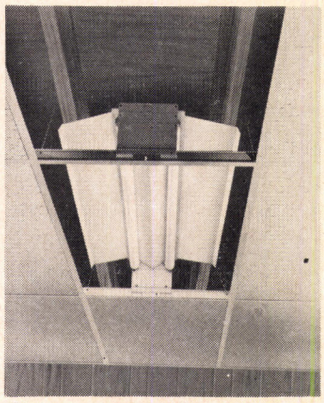


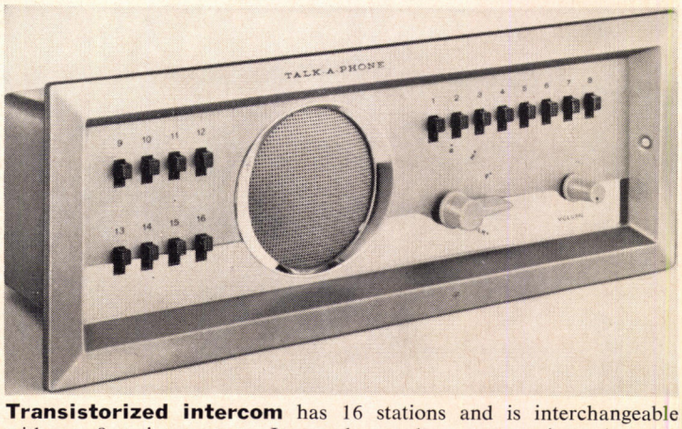
Radio-intercom combination includes four 8" speakers and a door speaker. The radio is AM-FM; the door answering attachment can be used from any speaker in the house. Three colors are offered. Music & Sound, Dallas. (*Circle 234 on Reader Service card*)



TV-FM plug and receptacle can be strap-mounted in all types of outlet boxes. A wide selection of interchangeable plates in plastic and metal are available in single or multiple gangs and in combinations. Sierra Electric, Gardena, Calif.
Circle 236 on Reader Service card

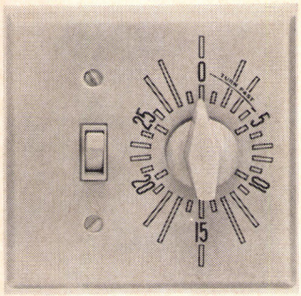


Fluorescent ceiling light is mounted with brackets that attach directly to the suspended ceiling grid and are adjustable to three fixture levels. Gridmate has two high-gloss white reflectors and a V-shaped ballast cover. Armstrong, Lancaster.
Circle 237 on Reader Service card

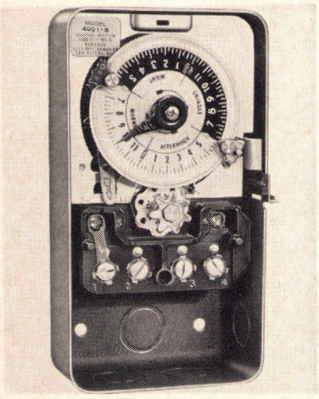


Transistorized intercom has 16 stations and is interchangeable with an 8-station system. It can be used to communicate between rooms or with front door. Unit has no tubes so it creates no heat problem. Talk-A-Phone, Chicago. (*Circle 239 on Reader Service card*)

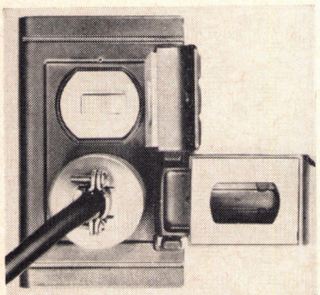
start on p. 152



Wall plates for manufacturer's gang-mounted wall-box time-switches come in two styles. One (*above*) accommodates a toggle switch and timer. The other has two outlets and a timer. Both are finished in aluminum. M. H. Rodes, Hartford, Conn.
Circle 235 on Reader Service card



Time-switch thermostat has a skip-a-day setting to shut heat off or keep it low when house is unoccupied. A spring-wound carryover attachment is available to assure continued operation during power failure. Paragon, Two Rivers, Wis.
Circle 238 on Reader Service card



Weatherproof plate with flip lids has a lowered flange around the outlet openings designed to prevent shorting when inserting or withdrawing plugs. The unit is made of 3/32″-thick noncorrosive die-cast aluminum. Slater, Glen Cove, N.Y.
Circle 240 on Reader Service card

Compact switch is designed for use in thin-wall partitions. Size: 1 11/16″ long, 7/8″ wide and 13/16″ deep. The switch will handle full-rated capacity with tungsten filament and fluorescent lamp loads and up to 80% of rated capacity for motor loads. General Electric, Providence, R.I.
Circle 243 on Reader Service card

Burglar alarm sounds a loud blast and flashes a bright red light to warn of tampering or unauthorized entry. The battery-operated unit is designed for single installation. Dimension Inc., Chantilly, Va.
Circle 244 on Reader Service card

Box extension adapter permits fast take-offs from any installed box to provide additional electrical outlets. The extension adapter is available in two-, three- or four-hub styles with hubs on two sides. Bell Electric, Chicago.
Circle 245 on Reader Service card

Electronic fire alarm detects both smoke and heat. The unit also signals when there is a power failure. Burglar alarms and other sensing devices may be connected to Alarm-King. Jensen, Estherville, Iowa.
Circle 246 on Reader Service card

Deep wallplates fit flush to wall over protruding outlet boxes and other obstructions. The plastic plates are available in five colors: ivory, beige, gray, brown and white. Sierra Electric, Gardena, Calif.
Circle 247 on Reader Service card

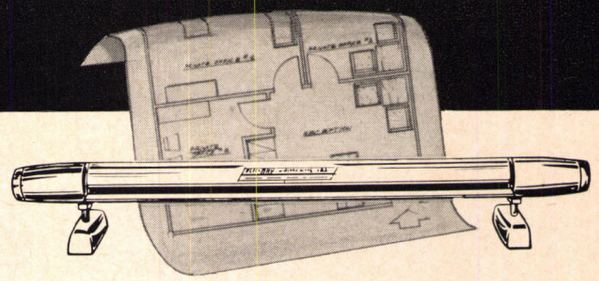
Grounded duplex receptacle is designed to simplify wiring in hard-to-reach places. Model No. 884 has self-leveling straps. Rodale, Emmaus, Pa.
Circle 248 on Reader Service card

Signal warning outlet shines a red light when plug is inserted in the outlet. The unit is designed to indicate when appliances are in use. Slater Electric, Glen Cove, N.Y.
Circle 249 on Reader Service card

Weatherproof cover for outdoor electrical outlets is made of polypropylene. The one-piece unit has a self-hinged cover and offers rust, corrosion and shock resistance. General Electric, Providence, R.I.
Circle 250 on Reader Service card

New literature starts on p. 168

NEW BLU-RAY WHITEPRINTER
COSTS ONLY $239.50*



The new Blu-Ray model 142 whiteprinter copies anything typed, written, drawn or printed on translucent or semi-opaque materials up to 42″ wide by any length. Makes foils and sepias, and does anything larger, costlier machines can do. It features a troublefree electronic speed control. And it's so compact it fits on any table or hangs from any wall. In short, it's an amazing value: Try it in your office, free.
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FOR INFORMATION AND FREE 48-page booklet, showing dozens of Blu-Ray uses for plant and office, circle or write in No. 107 on Reader Service Card.

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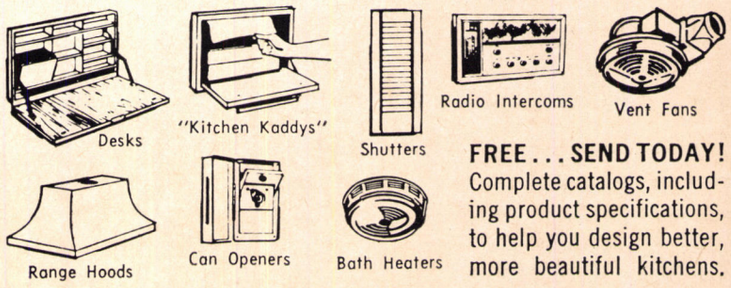

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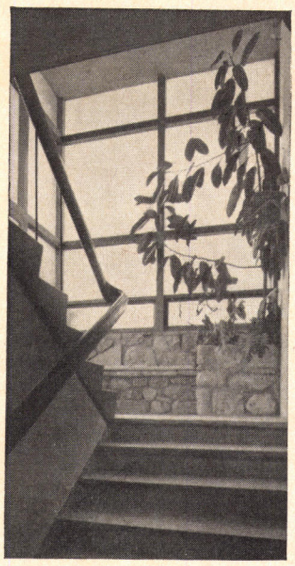

William Brockway residence, Los Angeles, Calif. Burton Schutt, architect. Reprint, Sunset Magazine. H. H. Baskerville, Jr., photographer.

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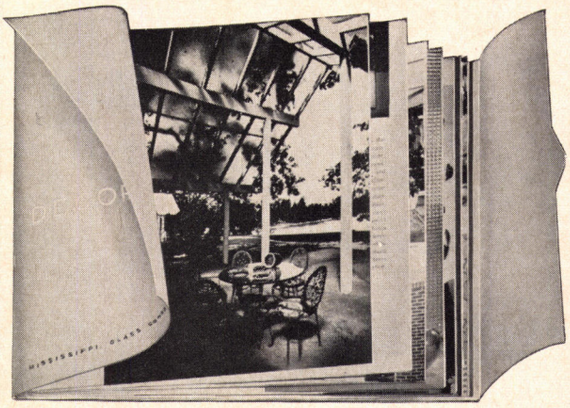
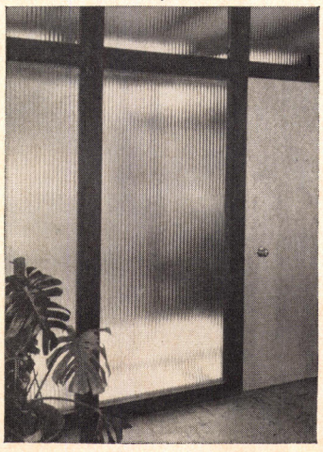


Create a distinctive decor with translucent glass by Mississippi that floods interiors with softened, flattering light, makes rooms seem larger, friendlier, important. Write for free booklet. Address Department 9.



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NEW LITERATURE

For copies of free literature, circle the indicated number on the Reader Service card, page 143.

SINGLE-CONTROL FAUCET. 4-page booklet shows models available and describes three-piece, nonmetalic assembly that has one moving part. Cole Valve Corp., Chicago. *(Circle 301 on Reader Service card)*

THERMAL AND ACOUSTICAL INSULATION. 15-page brochure covers advantages of insulation, types of insulation available, insulation design, data on heat loss, condensation and noise control. Owens-Corning Fiberglas Corp., Toledo. *(Circle 302 on Reader Service card)*

LAMINATED PLASTIC. 12-page color catalog discusses properties of Consoweld and shows in-place photographs of colors and patterns available. Consoweld Corp., Wisconsin Rapids, Wis. *(Circle 303 on Reader Service card)*

GAS AND ELECTRIC RANGES AND OVENS. Two 6-page folders show and discuss features of appliances. Chambers Corp., Cleburne, Tex. *(Circle 304 on Reader Service card)*

VENTILATING CUPOLAS. 4-page brochure discusses use of cupolas to cool rooms below attic and prevent problems of condensation. Minimum FHA standards are given. Stephenson & Co., Cleveland, Ohio. *(Circle 305 on Reader Service card)*

SPECIAL SERVICE DOORS. Selector guide covers floor, sidewalk and vault doors and single and double leaf aluminum and steel doors. Bilco Co., New Haven, Conn. *(Circle 306 on Reader Service card)*

CONCRETE ADMIXTURES. 6-page folder describes in detail six types of admixtures. W. R. Grace & Co., Cambridge, Mass. *(Circle 307 on Reader Service card)*

ELECTRIC HEATING COST ESTIMATOR. Calculator helps determine heating equipment needs and level of insulation necessary for rooms or total house. For copy: send $1.50 to Johns-Manville, Dept. Q66, P.O. Box 439, New York, N.Y. 10010.

ARCHITECTURAL GLASS. 136-page handbook has basic information on flat glass, architectural metals, doors and entrance material, sealants, glass fiber, Foamglas and paints. Pittsburgh Plate Glass, Pittsburgh. *(Circle 308 on Reader Service card)*

INTERIOR AND EXTERIOR HARDBOARD. Product fact sheets describe and show panels and siding. Folder includes some sheets with technical information for architects and builders and others for use by salesmen with prospects. Masonite, Chicago. *(Circle 309 on Reader Service card)*

WOOD WINDOWS. 16-page booklet gives technical information on casement, double-hung and bow windows, wood sliding and combination doors and door frames. Crestline, Wausau, Wis. *(Circle 310 on Reader Service card)*

SAUNA HEATERS. 4-page bulletin describes complete line including natural and forced circulation models. General Electric, Schenectady, N.Y. *(Circle 311 on Reader Service card)*

RANGE HOODS. 8-page catalog features six models: a three-speed dual blower hood, ducted and duct-free units in single and two-speed styles and a round discharge model. Broan, Hartford, Wis. *(Circle 312 on Reader Service card)*

SHOWER DOORS AND TUB ENCLOSURES. 4-page brochure shows and describes hinged shower doors and sliding enclosures. Ador/Hilite, Fullerton, Calif. *(Circle 313 on Reader Service card)*

COMPACT TOILETS. 2-page sheet includes list of features and specifications and dimensional sketches of units. Mansfield Sanitary Inc., Perrysville, Ohio. *(Circle 314 on Reader Service card)*

RED CEDAR. 4-page folder describes characteristics of wood, uses and siding and paneling patterns available. Western Red Cedar Lumber Assn., Portland, Ore. *(Circle 335 on Reader Service card)*

CONCRETE ADMIXTURE. 16-page booklet has graphs, charts and data on admixtures. Master Builders, Cleveland, Ohio. *(Circle 315 on Reader Service card)*

STRUCTURAL WOOD FASTENER. 4-page product bulletin describes special hanger for 2x4 members. Timber Engineering Co., Washington, D.C. *(Circle 316 on Reader Service card)*

SAUNA. Product bulletin describes features of 6'x4'x6½' sauna. Am Finn Sauna, Camden, N.J. *(Circle 317 on Reader Service card)*

ELECTRICAL DISTRIBUTION EQUIPMENT. 168-page catalog includes product information on safety switches, circuit breakers, load centers, and panelboards. I-T-E Circuit Breaker Co., Philadelphia. *(Circle 318 on Reader Service card)*

MAINTENANCE TRUCK BODIES. 4-page catalog insert gives details and dimensions of 36" side height service compartments and lists options available. Pierce Auto Body Works, Appleton, Wis. *(Circle 319 on Reader Service card)*

RESILIENT FLOOR TILE. Color comparison charts permit comparisons between patterns, styles and colors of vinyl asbestos and asphalt tiles of all leading manufacturers. Asphalt and Vinyl Asbestos Tile Institute, New York City. *(Circle 320 on Reader Service card)*

FLOOR PAINTS. Technical booklet has data on high sheen and increased abrasion properties of floor paints. Results of studies given. Rohm and Haas Co., Philadelphia. *(Circle 321 on Reader Service card)*

LIGHTING FIXTURES. Booklet summarizes desirable design qualities for outside and inside functional and decorative fixtures and their placement. General Electric, Cleveland, Ohio. *(Circle 322 on Reader Service card)*

SUBMERSIBLE PUMPS. 4-page specification sheet includes performance curves and selection charts. Goulds Pumps, Seneca Falls, N.Y. *(Circle 323 on Reader Service card)*

APARTMENT HOUSE BIBLIOGRAPHY. 59-page booklet is a selected list of references from books and periodicals. Subjects covered include: condominiums, cooperatives, economics, garden apartments, remodeling and marketing. For copy: send $5 to National Housing Center, 625 L St. N.Y., Washington, D.C.

ROOM AIR CONDITIONERS. Certification directory lists all models—window and through-wall types. Data includes cooling capacity and electrical requirements. National Electrical Manufacturers Assn., New York City. *(Circle 324 on Reader Service card)*

HARDBOARD PANELS. 20-page booklet details and describes 18 panels and their applications. Room setting photographs in color are included. Masonite, Chicago. *(Circle 325 on Reader Service card)*

WALL SYSTEMS. 4-page brochure lists tested fire ratings for interior and exterior wall systems and floor and ceiling systems. Georgia-Pacific, Portland, Ore. *(Circle 326 on Reader Service card)*

LIME-BASED PLASTER. 8-page folder describes Kilnoise and its advantages. Architectural specifications, mixing, application and coverage in formation is given. Pfizer & Co., New York City. *(Circle 327 on Reader Service card)*

New literature continued on p. 170

FAT CAT

He's a smart, modern apartment building owner or manager . . . maybe like your clients. Of course, he's fighting every day with rising costs . . . probably like your clients.

But he's found a way to lick one of his problems . . . the laundry room operation.

He does it with our ECONO/EASY program for laundry room profit. Here's a powerful combination of world-famous EASY coin-operated equipment, and the helpful service of a professional coin-op business man, if desired. And the program is backed by a great, new Econo package of operation aids for the laundry room, plus our experience from over 4000 successful coin-op laundries.

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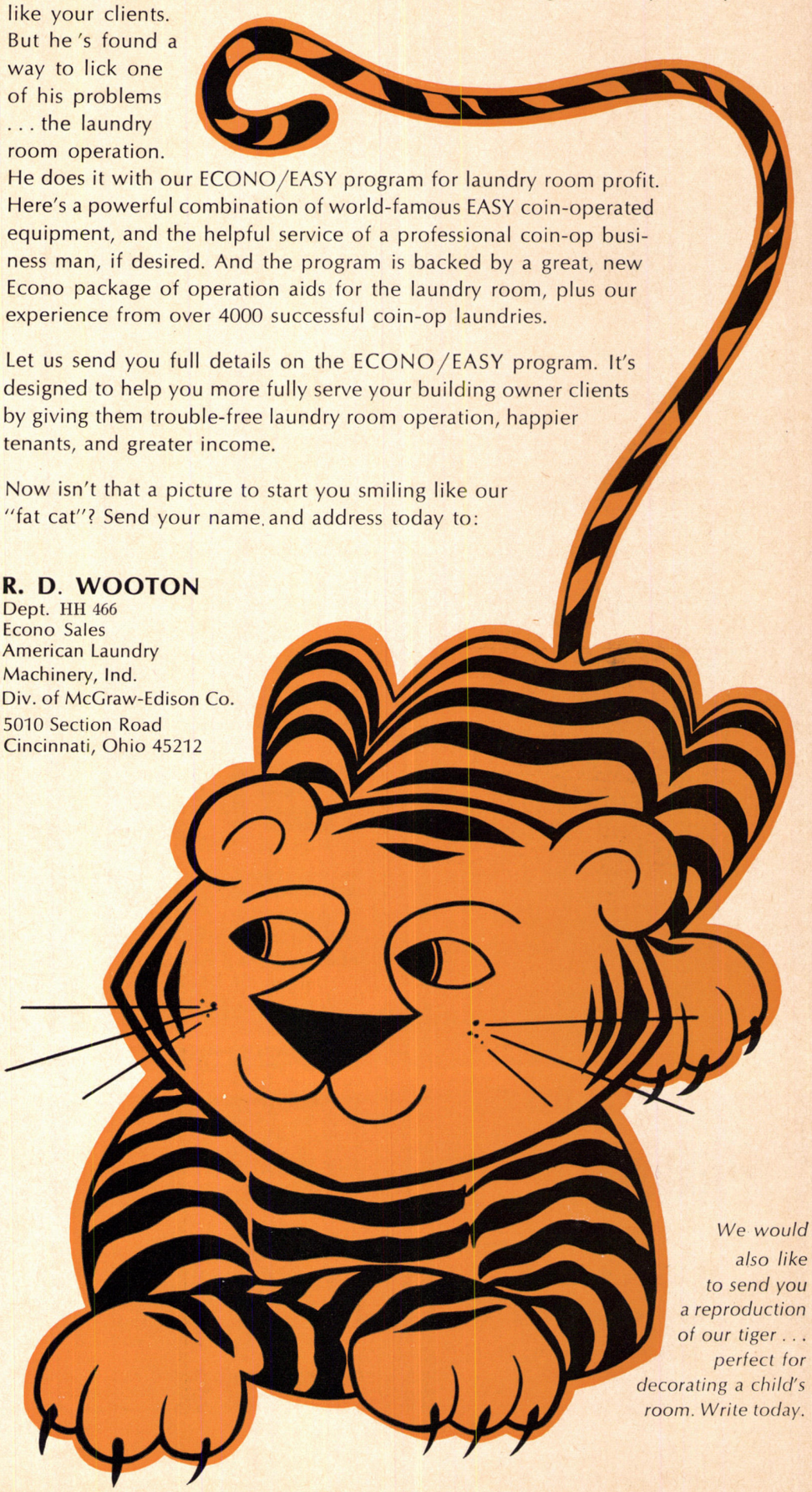

We would also like to send you a reproduction of our tiger . . . perfect for decorating a child's room. Write today.

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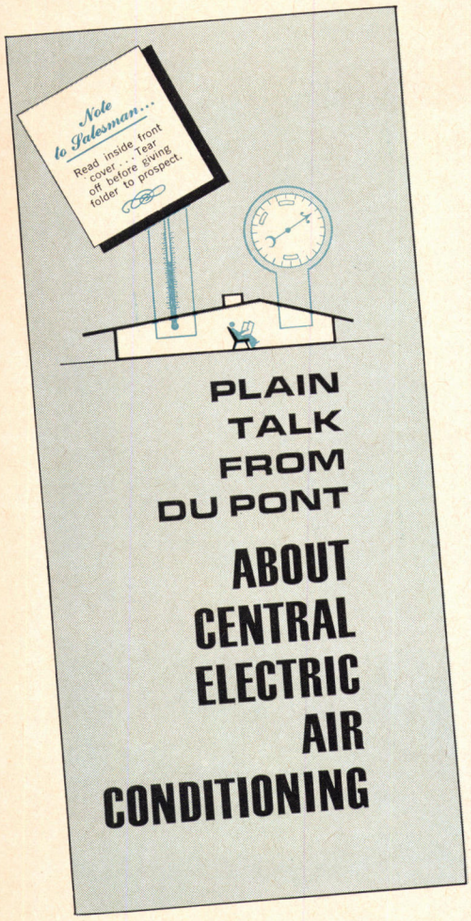
Free booklet tells you how to use central air conditioning to close more sales



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NEW LITERATURE

starts on p. 168

STEEL. 24-page booklet contains 53 abstracts of articles in U.S. and foreign technical publications. Research and design, buildings, bridges and miscellaneous structures are covered. American Iron and Steel Institute, New York City. *(Circle 328 on Reader Service card)*

SHOWER DOORS AND TUB ENCLOSURES. 4-page brochure shows and describes hinged shower doors and sliding enclosures. Ador/-Hilite, Fullerton, Calif. *(Circle 313 on Reader Service card)*

INSULATION INSTALLATION. 2-page sheet describes Stic-Klip that can be permanently bonded to surfaces of cement, cinder block, masonry, metal or wood. Stic-Klip Mfg., Cambridge, Mass. *(Circle 329 on Reader Service card)*

SEALANT. Technical bulletin describes Betaseal #500 for building construction and maintenance. Sealant will bond to metal, wood, glass, stone and many other surfaces. Essex Chemical Corp., Clifton, N.J. *(Circle 340 on Reader Service card)*

PLASTIC PIPING. Booklet describes techniques for installing drain-waste-vent plumbing systems. Information on physical and chemical properties included. ABS Council, Pasadena, Calif. *(Circle 331 on Reader Service card)*

WINDOW CONDENSATION. Calculator operates like a slide rule and shows which combinations of climate and window material can result in condensation. Ponderosa Pine Woodwork, Chicago. *(Circle 341 on Reader Service card)*

PLASTIC-FINISHED PANELING. 8-page catalog shows and describes patterns and styles of hardboard available. Marsh Wall Products, Dover, Ohio. *(Circle 342 on Reader Service card)*

ARCHITECTURAL GLASS. 12-page booklet describes multi-purpose laminated glass products. Technical information is included. Amerada Glass Corp., Chicago. *(Circle 334 on Reader Service card)*

ARCHITECTURAL METALWORK. 202-page catalog includes photographs and information on railings, screening, trellage and other ornaments and fasteners. Julius Blum & Co., Carlstadt, N.J. *(Circle 343 on Reader Service card)*

TROWEL TOOLS. 72-page catalog describes and illustrates complete line of more than 1,000 tools. Goldblatt Tool Co., Kansas City, Mo. *(Circle 344 on Reader Service card)*

PLYWOOD. 6-page folder discusses grades, types, specifications and use recommendations for softwood plywood. Timber Engineering Co., Washington, D.C. *(Cicle 330 on Reader Service card)*

GYPSUM LATH AND PLASTER. 16-page booklet includes specifications and application diagrams. Glass-fiber reinforcement, lath and lathing systems and gypsum plasters are covered. Bestwall Gypsum, Paoli, Pa. *(Circle 339 on Reader Service card)*

ASBESTOS-CEMENT FLAT SHEETS. 8-page brochure shows complete line and includes design information, dimensions and suggested uses of sheets. Atlas Asbestos Co., Ambler, Pa. *(Circle 332 on Reader Service card)*

WALL MODULE DESIGNS. Four 4-page brochures show award winning designs. Modules are available in white and gray concrete and white gypsum. Arts for Architecture, Garden City Park, N.Y. *(Circle 333 on Reader Service card)*

TRACTOR. 16-page product bulletin shows and describes D7E tractor with diesel engine. Features and attachments available are covered. Caterpillar, Peoria, Ill. *(Circle 336 on Reader Service card)*

what every builder should know about Kemper kitchens...

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New slate design in Armstrong Vinyl Corlon.

The look and texture of real slate in a sheet vinyl floor. Made only by Armstrong— the best known name in building materials.

Brand-new floor gives your homes the luxury look of slate at the cost of vinyl.

Here's a new floor that offers your prospects the luxury look and the high style of slate. But it doesn't cost like real slate. It's sheet vinyl. Comfortable, quiet, resilient, easy-to-care-for sheet vinyl. Called Coronelle Vinyl Corlon, it's designed for the *active rooms* of a home: the entryway, family room, kitchen, playroom – rooms where vinyl has special appeal.

SEAMS DISAPPEAR. Coronelle Vinyl Corlon is installed in 6′-wide sheets. Its few seams, hidden in embossed grout lines, are virtually invisible. And it's suitable for installation with Armstrong's exclusive, new Perimiflor Installation System.

NEEDS NO SPECIAL TRADE. The same contractor responsible for all your other Armstrong floors installs Coronelle Corlon. No need for a different trade. Or for special tools, techniques, or hand-grouting. And Coronelle Corlon goes over standard subfloors suitable for other Armstrong floors.

TWO POPULAR DESIGNS: BRICK AND SLATE. The Coronelle slate design comes in terra cotta (shown opposite), blue-green, and beige colors. There's also a new brick series in Coronelle Vinyl Corlon available in red and white colorings. In everything from texture to grout lines, both brick and slate designs offer dramatic realism, built-in sales appeal.

New brick design in Coronelle Vinyl Corlon.

FOR ALL GRADE LEVELS. Both brick and slate Coronelle Corlon have the moisture-resistant Armstrong Hydrocord Back. They can be safely installed above, on, or below grade—except where excessive alkali or hydrostatic pressure makes the use of any resilient floor unwise.

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ADVERTISING SUPPORT. Armstrong does more advertising than any other building materials manufacturer This year millions of people will see Armstrong color commercials on *Blue Light* and *The Big Valley* (ABC-TV network), and full-color ads in 24 top consumer magazines.

TO HELP SELL YOUR HOMES. Your Armstrong ABC Representative can help you get the most sales value out of Armstrong floors—and the Armstrong name. For information, write Armstrong, 304 Sixth St., Lancaster, Penna.

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